The Erasmus Wilson Lectures

ON

THE GENERAL PATHOLOGY OF TUMOURS.

Delivered before the Royal College of Surgeons of England on Feb. 10th, 12th, and 14th, 1902.

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LECTURE III.[1]

Delivered on Feb. 14th.

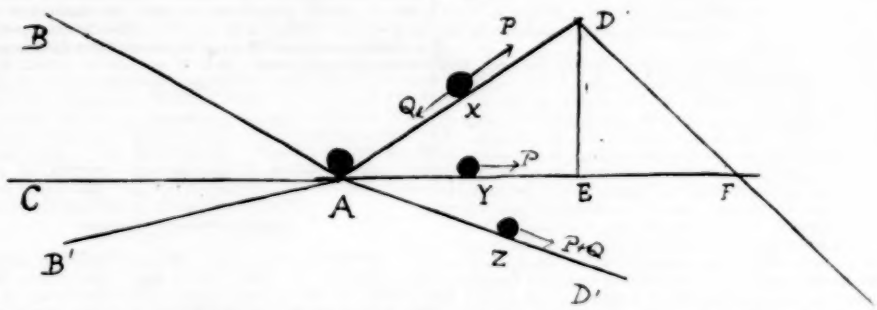
MR. PRESIDENT AND GENTLEMEN,—In the preceding lectures I have considered the classification and life-history of tumours, and I have reviewed various theories which have been advanced to explain their causation. I now propose to consider the relation of tumour formation to other pathological processes.

PHYSIOLOGICAL EQUILIBRIUM.

The various parts of which the organism is composed are normally in a condition of equilibrium; that is to say, each component exists in such a position and quantity as is best suited for the useful performance of its functions, and the functions themselves are also in equilibrium. The position of equilibrium—that is, the exact relation between the component parts—varies in different individuals and in the same individual at different ages. This condition of equilibrium we call *health*. If this condition of equilibrium is disturbed in any way by an alteration in the position, quantity, or function we have the condition known as *disease*. We can represent this by a mechanical illustration (Fig. 1).

Let B A C, D A E, be two inclined planes, the angles at A being equal and the inclinations of the planes being in opposite directions. Let D F E be a third plane sloping from D in the opposite direction to D A. A position of equilibrium—that is, a condition of health—is represented by a ball resting on the planes at A, all forces acting on the ball being supposed to act in the plane of the paper, which is considered vertical. The condition of disease will be represented by a displacement of the ball up the plane A D to a position X, in which it is no longer in equilibrium. At X the ball is acted upon by two forces (neglecting the resistance of the plane), the disturbing force P acting up the plane, which represents the extrinsic cause of the disease, and the component of gravity Q (= W sin D A E, W being the weight of the ball), acting down the plane, which represents the tendency to repair. The stability of the equilibrium is measured by the force Q, and, since this is equal to W sin D A E, it is proportional to the sine of the angle D A E. If this angle is positive—that is, if the planes are above the horizontal line C A E—Q acts in the direction down the plane towards A. If the angle D A E is zero—that is, if the planes are in the position of the horizontal line—Q = 0 and the condition is one of neutral equilibrium in which there is no tendency to return towards the original position A. If the angle is negative—that is, if the planes are below the horizontal line in the positions A B', A D'—Q is negative and acts in the same direction as P, and the condition of equilibrium is unstable, there being no tendency to return to the original position A but a tendency to move farther and farther away from that position, this tendency being independent of the disturbing force P.

FIG. 1.



Now, corresponding to these two conditions of stable and unstable equilibrium we have two groups of pathological processes—the *reparative processes*, such as repair, compensatory hypertrophy, and compensatory hyperergia; and the *progressive processes*, such as tumour formation, progressive hypertrophy, and progressive hyperergia. The characteristic of the reparative processes is that there is a tendency to return towards the original position of health, while in the progressive processes the tendency is to fall more and more away from that position. We can, therefore, represent a disease characterised by the reparative processes, such as an inflammatory disease, by the position X, P being the irritant and Q the tendency to repair. If P be the greater the ball will ascend the plane and in time may arrive at a position such as D, in which any further displacement will cause it to run down the plane D F. If, however, Q be the greater the ball will return towards A. That is, if the irritant overcomes the tendency to repair the disease will extend and may ultimately give rise to a progressive process such as a tumour arising in a chronic ulcer. If, however, the irritant is overcome by the process of inflammation repair sets in and health is restored. It is obvious that, for a given force P, the amount of displacement of the ball depends on the stability of the system, and in the same way the reaction of the body to an irritant depends on the stability of the individual, some patients being immune and others extremely susceptible to the same irritant. A disease characterised by a progressive process is represented by the position Z in which the tendency is for the disease to extend progressively.

In the reparative processes, although the tendency is always to return to the original position of health, yet this position is seldom exactly regained, the position of equilibrium itself being altered more or less according to the intensity or duration of the disturbing factor. This alteration of the original position is indicated, in the healing of a wound for instance, by the presence of a scar. Under certain circumstances the original stable position may become unstable, as is seen in tumour formation in a scar. This might be represented in the diagram by supposing that the force P did not act directly up the plane, but acted more horizontally so as to press the ball against the plane and thereby to depress the latter so as to bring it eventually into the position A D'. The diagram also shows that under stable conditions the disease will extend so long as the extrinsic force P continues to act, while in the unstable condition the extent does not depend on the extrinsic force but only on the intrinsic.

Now this condition of equilibrium exists between different parts of the body. Firstly, there is a condition of equilibrium between the component parts of the various tissues, that is, between the cells and intercellular substance. If the condition is stable and is disturbed—e.g., by injuring the tissue—the cells at first proliferate out of proportion to the intercellular substance; these cells then lay down the intercellular substance and thus restore the

[1] Lectures I. and II. were published in THE LANCET of Feb. 15th, 1902, p. 423.

equilibrium, any excess which may occur being subsequently absorbed. This is seen in the *repair* of a wound or a fracture. If, however, the condition is unstable, the cells proliferate continuously without forming the necessary amount of intercellular substance, thus forming a *sarcoma*.

Secondly, there is a condition of equilibrium between epithelium and connective tissue with regard to position. If the condition is stable and is disturbed—e.g., by introducing some epithelium into the connective tissue—the epithelial cells may proliferate for a time but are eventually absorbed or encapsulated. If, for example, a few epithelial cells be introduced into the subjacent tissue, as sometimes occurs as a result of trauma, the effect is that the cells proliferate for a time, forming a globular mass of cells or an *implantation pearl*. If a larger portion of epithelium, including the basement membrane, be introduced, the result is an *implantation cyst*. An implantation cyst is the result of the natural tendency of epithelial cells to cover any bare surface. The cells on each side of the included portion proliferate until they line the cavity in which it lies and the cyst subsequently increases in size only by accumulation of its contents. The implantation cyst, therefore, is not a tumour in the strict sense of the word, since the increase in size is not due to an active proliferation of its cells so much as to the retention of its contents. If the original condition between the epithelium and the subjacent tissue is unstable the epithelial cells which are introduced continue to undergo active proliferation and the result is the formation of a *carcinoma*.

In the next place, there is a condition of equilibrium between the different parts of a tissue forming part of an organ. In stable equilibrium the removal of a portion of tissue leads to a proliferation of the neighbouring portions which continues until the deficiency is made good and then ceases—*regeneration*. Corresponding to this in the unstable condition we have a *tissue tumour* which consists of an overgrowth of a limited portion of tissue.

Again, there is a condition of equilibrium between the amount of the essential tissue and that of the supporting tissue of an organ. In the stable condition atrophy of the essential tissue leads to an increase of the supporting tissue as is seen in *replacement fibrosis*. The corresponding progressive process to this would be *progressive fibrosis* such as is seen in the fibrosis of nerves, and, possibly, in some forms of cirrhosis of the liver.

Next, there is a condition of equilibrium between the structure of a tissue and the function which it has to perform, both in quantity and quality. In the stable condition any increase of function leads to a corresponding hypertrophy of the tissue; this is *secondary compensatory hypertrophy*. I call it secondary because the primary change in the tissue in this case is hyperergia; examples are seen in muscles and glands. If the function which a tissue has to perform be altered in character the structure of the tissue also undergoes a change to enable it to fulfil its new function. This is *compensatory metaplasia*. If, for example, a surface covered by columnar epithelium is exposed to friction the epithelium undergoes metaplasia and is changed into stratified squamous epithelium. If, again, a tendon, the structure of which is only adapted to withstand a tension in the direction of its fibres, is called upon to support a stress at right angles to that direction, its structure becomes modified by the formation in it of cartilage or bone. Examples of this are found in sesamoid bones, drill bones, &c. The corresponding process in the unstable condition is *progressive metaplasia* such as is seen in myositis ossificans.

In the next place, there is a condition of equilibrium between the size of the different organs. If the equilibrium is stable and is disturbed by removing a portion of an organ or one of a pair of organs, the remaining portion undergoes *compensatory hypertrophy*. Whether or not a true primary compensatory hypertrophy, as distinct from the secondary form, exists, seems to be a matter of doubt—at any rate after intra-uterine life. The corresponding process in the unstable condition is *progressive hypertrophy*, examples of which condition are seen in the prostate, breast, thyroid gland (goitre), bones (leontiasis ossea), and perhaps in the lymphatic glands in Hodgkin's disease. The hypertrophy in these cases is not accompanied by hyperergia.

Lastly, there is a condition of equilibrium between the functions of the different organs. Diminution of the function of an organ leads to *compensatory hyperergia* of a similar or correlated organ. Corresponding to this we have, in the unstable condition, *progressive hyperergia*, examples of which are found in the kidneys (diabetes insipidus), leucocyte-forming organs (leucocythæmia), and, perhaps, in the thyroid gland in Graves's disease. Hyperergia, whether compensatory or progressive, is followed by secondary compensatory hypertrophy.

We see from the foregoing considerations that diseases may be divided into two great classes: (1) those which occur in a body in which the condition of equilibrium is stable; and (2) those which occur in a body in which the equilibrium is unstable. The pathological processes which characterise the diseases of the first class all tend towards the restoration of the original position of equilibrium, while those which are characteristic of the diseases of the second class have a progressive tendency away from the original position.

I have omitted all mention of the retrogressive processes, but on examining these we find that, in the same way, some are characteristic of stable, others of unstable equilibrium. The former are due to definite causal factors which are extrinsic to the part concerned; they cease on the removal of this factor and restoration takes place. The latter are not characterised by definite extrinsic factors and restoration does not occur. We can, in fact, liken the organism, the cells, tissues, and organs of which are in stable equilibrium to a nation composed of individuals bound together by a well-ordered government and various moral forces, and living together in harmony and prosperity, each individual doing his own work and propagating his own species. In such a community if an attack were threatened from without those at the point attacked would first resist the invaders and if these were unsuccessful the whole number of individuals would take their share in defence. On the other hand, an organism, the component parts of which are in unstable equilibrium, can be likened to a nation of individuals discontented with the government and at variance with each other. In such a case a very slight attack from without would suffice to kindle a rebellion on the part of the discontented faction which would tend towards the destruction of the nation. The same effect might easily occur, without any extrinsic interference, from intrinsic causes alone. Thus the reparative processes constitute a defence of the organism against extrinsic injurious agents, while the progressive processes constitute a rebellion on the part of certain components against the mastery of the body as a whole. What, then, are the forces between which this equilibrium exists? We can represent them diagrammatically in the following way:

FIG. 2.

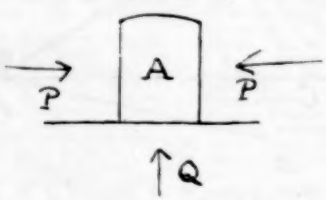
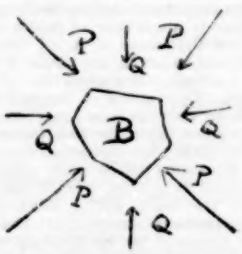


FIG. 3.



Let A (Fig. 2) represent an epithelial cell. This cell possesses an intrinsic tendency to proliferate in all directions. This tendency is kept in check by certain forces P exerted by the epithelial cells adjacent to it and by the force Q exerted by the subjacent connective tissue. Under normal conditions the tendency to proliferate and these intercellular forces are in equilibrium. As the tendency to proliferate in the direction of the free surface is not counteracted by any intercellular force proliferation may

take place in this direction. In the case of secreting cells, however, proliferation towards the free surface is replaced by secretion. If, now, we remove one of the forces P, as by removing the neighbouring epithelial cells, proliferation is set free in the direction of the removed force. The same will be the case if one of the forces P be diminished instead of being removed, as is the case in the epithelial cells lining a retention cyst. If the original condition of equilibrium was stable the force P will be restored by the proliferation and the equilibrium will be regained. This is the case in regeneration of epithelium following a wound, &c. If, however, the equilibrium was originally unstable the force P will not be restored and proliferation will continue, thus giving rise to an epithelial histioma. If the force Q be removed or diminished proliferation will take place into the subjacent connective tissue. In this case, if the original condition was stable, the force Q would be restored and proliferation would cease. If, however, the equilibrium was unstable, the force Q would not be restored and proliferation would continue in the connective tissue giving rise to a carcinoma.

Again, let B (Fig. 3) represent a connective tissue cell. This cell has a tendency to proliferate in all directions, which tendency is kept in check by the forces P exerted by the neighbouring cells of the tissue, and also by certain forces Q representing the influence of the intercellular substance. If the forces P are diminished or removed, the forces Q remaining the same, proliferation will take place and will be accompanied by the formation of the normal amount of intercellular substance. This will give rise, in the stable condition, to regeneration of the tissue; in the unstable, to a histioma consisting of the same kind of tissue. If, on the other hand, the forces Q be diminished, proliferation of the cells will occur, but the intercellular substance will not be formed in the proper amount and this will give rise in the unstable condition to a sarcoma and, in the stable condition, it is seen in the proliferation which is characteristic of repair. The other processes to which I have referred might be represented in a somewhat similar manner.

As to the nature of these intercellular forces we have no knowledge. They are apparently not the recognised physico-chemical forces nor are they nervous, although the nervous system may have an effect in regulating them. Development proceeds regularly and uniformly under the influence of these forces before the existence of nervous connexions, the different tissues developing in their proper situations and of their proper structure according to the part which they have to play in the organism. The more we study the growth and development of living organisms, the more difficult it is to believe that vital phenomena can be explained on a physico-chemical basis. The intercellular forces may be altered directly by extrinsic agents such as irritants, but, being intrinsic forces, they may also be affected by intrinsic factors without the direct action of external agents.

CAUSATION IN GENERAL.

A cause is defined by logicians as the invariable, unconditional antecedent of an event which, in relation to the cause, is called the effect. A cause is said to have five characteristics: it is quantitatively equal to the effect and qualitatively it is invariable, unconditional, immediate, and antecedent. Cause, in this sense, is the sum of all the conditions which are necessary for the occurrence of the event. A cause, it is to be noticed, is not a definite entity, but is a state or process; it is essentially matter in motion. The equality of cause and effect follows from the principles of the conservation of energy and the indestructibility of matter. The effect is, in fact, the cause redistributed; hence it follows that any substance which forms part of the cause must also be found, in some form or other, in the effect. For any given event there is only one cause and a given cause gives rise to only one effect. We can, however, consider the cause itself as an effect and proceed to inquire into its causation. We thus arrive at intermediate and remote causes, but the farther we proceed the more conditions we introduce. We can thus divide causes into immediate and remote, the remote being connected with the immediate by a series of intermediate causes. Of these the only unconditional cause is that which is immediate, remote causes being always conditional. In the remote causes there are, however, certain essential factors present.

To take an example, let us consider tuberculosis. This disease is defined at the present day as a disease caused by the bacillus tuberculosis, and the only certain method by which we can say that a given disease is tuberculosis is to demonstrate the presence of the bacillus. The immediate cause is therefore the action of the bacillus on the living tissues. If we proceed a step farther and inquire into the cause of this action we find that it is the entrance of the bacillus into the tissues with the condition that the tissues must be capable of being acted upon by the bacillus, or, in other words, that the tissues must be susceptible. We can proceed step by step in the same way and arrive at more remote causes, but however remote the cause there must always be present the essential factor—namely, the bacillus itself. Tuberculosis is therefore a disease characterised by an essential causal factor which is of extrinsic origin.

To take another example, let us consider carcinoma. The characteristic feature in carcinoma is the presence of proliferating epithelial cells in the connective tissue spaces. In carcinoma, therefore, there is no necessary extrinsic factor present corresponding to the bacillus of tuberculosis and, from the equality of cause and effect, there can be no necessary extrinsic factor in the cause of carcinoma. The immediate cause of carcinoma is the disturbance of an unstable position of equilibrium between the epithelial cells and the connective tissue so that the epithelial cells penetrate into, and proliferate in, the connective tissue, the essential factor—namely, the instability—being intrinsic. The immediate cause of carcinoma is, therefore, an intrinsic one and involves no extrinsic factor.

ETIOLOGY OF TUMOURS.

In considering the causation of tumour formation we must take into consideration the peculiarities of tumours. In the first place, tumours are local overgrowths, and in the second, this overgrowth is progressive—that is, it is not limited by the influence of the surrounding tissues. Now the growth in tumours does not differ essentially from that of normal structures and there is no reason to suppose that the cause of the proliferation is different in the two cases. Cell division is, as Adami states, an intrinsic property of the cell and is only influenced indirectly by extracellular conditions. The usual conditions which give rise to proliferation are injury or removal of the neighbouring cells, thus producing an alteration of the intercellular forces acting on the cell. Increased functional activity and increased blood-supply also give rise to proliferation. In addition, these intercellular forces may be altered by intrinsic conditions.

The progressive nature of the growth in tumours shows that the original condition of equilibrium of the part in which the tumour arose was unstable, so that the growth, once started, is not opposed by the normal intercellular forces. This instability is the determining factor of tumour formation and the other progressive processes, as in its absence no amount of extrinsic irritation would give rise to them. In this instability of equilibrium, then, we have found that for which we have been seeking, namely, the common factor of tumour formation. The cause, then, of the progressive processes is the disturbance of a part of the body the component elements of which are in unstable equilibrium. This satisfies the necessary qualitative conditions of a cause; it is immediate, unconditional, invariable, and antecedent, and it is the only cause which satisfies these conditions, any remoter cause being conditional. If we proceed to look for the causes of this instability—that is, for the remote causes of tumour formation, &c.—we find that they are many and of various kinds. They may be the same as those which cause the disturbance of the equilibrium or they may be different. Chronic irritation is a frequent cause; this may be mechanical, as in the irritation of a tooth or as in soot and paraffin cancer, or it may be parasitic, as in the carcinoma arising in lupus nodules, and in the bladder tumours which are sometimes met with in bilharzia disease. Dr. T. Harris[2] of Manchester has described a case of carcinoma associated with bilharzia irritation, in which the ova were found, not in the tumour itself, but in the tissues of the bladder wall in the neighbourhood. The ova had given rise to a chronic irritation which had produced a condition of unstable equilibrium with the formation of a tumour as a result. Besides these extrinsic causes, which, it will be observed, have no specific characters, there are also intrinsic causes. The great frequency with which the female organs of generation are the seats of tumour formation is to be explained by the frequent alternations of rest and activity to which these organs are subject. Tumours have often been attributed to mental worry and similar conditions,

[2] Transactions of the Pathological Society of London, vol. xxxix., 1888.

and Sir William Bennett, in the lecture to which I have previously referred, described two cases in which mental concentration directed to the breast seemed undoubtedly to have taken part in the causation of tumours in that situation. Age also plays a part especially in the causation of carcinoma, and the observations of Thiersch, Woodhead, and others have shown that it acts through the relative atrophy of the connective tissue compared with the more active epithelium.

The influence of heredity on the causation of tumours has been variously estimated and I do not propose to go into the statistics on this point. There can, I think, be no doubt that heredity has a share in causation, but it is not the tumour, but the unstable condition of equilibrium, which is inherited. The extent to which the body cells proliferate in normal development and growth is undoubtedly inherited and, since errors of development are admitted to be inherited to a certain extent, it is probable that errors of growth, such as tumour formation, may be also. Tumours, however, may be congenital without being inherited and are, in this case, apparently due to a defect in the normal heredity of structure. Just as there may be a defective development of an organ, so there may be a defective development of the intercellular forces. The part which heredity plays in tumour causation differs from the part that it plays in the causation of such diseases as tuberculosis in the fact that in tumours the essential factor—namely, the unstable condition of equilibrium—may be inherited, while in tuberculosis it is the adjuvant factor, the susceptibility, which is transmitted.

An important factor in tumour causation is to be found in the influence of civilisation. Cancer is admittedly more common among civilised nations than among uncivilised, and it is more common among domestic animals than among those that are wild. Civilisation acts probably by means of the unnatural mode of life which it entails. Indoor life, sedentary occupations, excessive feeding, unnatural clothing, the mental worry and excitement which are inseparable from such a life all play their part. It is to these factors that we must look for an explanation of the alleged increased frequency of cancer at the present day.

It is not to be supposed that the equilibrium throughout the body is in an unstable condition. The instability sometimes affects the whole of one tissue in an organ, as in the case of diffuse sarcoma and carcinoma, but it is usually limited to a much smaller area, to a minute piece of tissue or even to a single cell or group of cells. While, then, this instability explains the occurrence of the primary tumour, it will not explain its extension to surrounding parts nor will it explain the occurrence of metastasis.

There are certain bacteria which at first grow with great difficulty on artificial media; by frequent transplantation, however, they acquire the property of growing readily on such media and this property is transmitted to their descendants. In the same way the cells of a tumour by continuous proliferation in the primary growth acquire an increased power of proliferation which power is handed on to their descendants. If, then, these descendants arrive in a region in which the equilibrium is stable, they are able to proliferate in spite of the resistance offered to them and so to give rise to tumour growth. This increased power of proliferation is called by Adami the habit of growth. Once the cells have acquired this habit they behave as independent parasites. This explanation of malignant disease—namely, that the cells themselves act as parasites—will explain how it is that tumours are, as a rule, only infective among animals of the same species, since it is known that the blood of an animal can be replaced by that of another animal of the same species, but not by that of an animal of a different species; transplantation of tissues, also, is only successful between animals of the same species.

As I have mentioned previously, the wasting and cachexia of malignant disease can probably be explained by the destruction of tissue and the drain of nutriment by which it is accompanied, especially by the loss of carbohydrate material. Absorption of the products of degeneration may also take part in the causation of these conditions. This view of the pathology of tumour formation is based on the groundwork of observed facts and will explain all the phenomena associated with tumour growth.

SUMMARY OF CONCLUSIONS.

I would sum up my conclusions as to the pathology of tumour formation as follows: 1. Tumours are to be classified on a histological basis. The best mode of effecting this is to make use of the three-fold basis of cells, tissues, and organs. 2. The rudiment from which a tumour springs may consist (1) of the structures normally present at the point of origin; (2) of an embryonic collection of cells such as is described by Cohnheim; or (3) of tissues of new formation, the result either of an inflammatory condition or of previous tumour formation. 3. Extrinsic factors play a part in tumour causation, but are not the determining factors—that is, the occurrence or non-occurrence of a tumour does not depend on extrinsic factors. In particular, the parasitic theory is shown not to stand a critical investigation. 4. The determining factor in tumour causation is to be found in the intrinsic factors. 5. This determining factor consists in the existence of a condition of unstable equilibrium between the intercellular forces, so that proliferation, once started, is progressive and is not limited by the resistance of the surrounding tissues. 6. The causes of this instability are many and various and may be either intrinsic or extrinsic. 7. Proliferation having started, the cells acquire the habit of growth—that is, the power of independent proliferation which enables them to proliferate in parts of the body in which the condition of equilibrium is stable. 8. Tumours grow by proliferation of their own cells. 9. Tumours do not invariably continue to increase without limit. Under certain circumstances they may cease to grow and may diminish in size or may even disappear completely. 10. Tumour formation is not to be regarded as an isolated process but is to be considered as one of a group of progressive processes with which it is closely allied. Still less must one form of tumour, such as carcinoma, be considered apart from the others.

INDICATIONS AS TO TREATMENT.

It is not my duty as a pathologist to enter into details regarding the treatment of tumours, but we must remember that the three divisions of practical medicine and surgery—namely, pathology, clinical observation, and therapeutics—are mutually interdependent. The pathologist learns much from the clinician and the therapeutist and in return can render them assistance by suggesting modes of treatment. It is one of the most important duties of pathology to point the way to new methods of diagnosis, prognosis, and treatment, and without this it would have no practical utility.

If we refer to our mechanical illustration (Fig. 1) we see that when the ball has been displaced to the position X it can be brought back to its original position by two methods—either by removing or diminishing the extrinsic force P or by increasing the force Q. Since the force Q depends on the angle D A E, we can increase the force Q by increasing this angle. Similarly in disease we can either remove the extrinsic causes or we can increase the resistance of the body so as to enable it to overcome these causes. We can also act upon any intrinsic factor that may intervene between the extrinsic cause and the ultimate effect. In the case of tumours and the progressive processes generally, since we have to do with an active cellular proliferation we can hinder this by diminishing the supply of nutriment.

I have pointed out that the extrinsic factors in tumour causation are many and various and that they only act in initiating the disease. The removal of these factors, therefore, will act mainly as a prophylactic. For this purpose all sources of irritation, whether mechanical, parasitic, chemical, or the result of inflammatory conditions should be removed or avoided, especially in the case of those who show a propensity to tumour formation, such as those from whom a tumour has already been removed. This mode of treatment has, obviously, only a limited application. By removing the tumour we remove at once the area in which the condition of equilibrium was unstable and the cells which have acquired the habit of growth. In the case of simple tumours this mode of treatment will effect a permanent cure, and the same will be the case with a primary malignant growth if the removal is complete—that is, if all the cells which are the result of the tumour growth are removed so that none are left to find their way to distant parts of the body to give rise to metastatic tumours. This method of treatment is, and will remain, by far the most important, both with simple and malignant tumours. Unfortunately, it is not common to meet with malignant growths in a sufficiently early stage to enable us to be certain of effecting their complete removal, and after removal it is practically impossible, even after a minute histological examination, to be quite sure that all the proliferating cells have been removed.

Seeing that proliferation of cells plays the important part in tumour formation, it is natural to ask whether it is possible to hinder the proliferation by any process of starvation. Starvation might be induced, either by a general reduction of the nutriment supplied to the body, or by a local cutting off of the nutriment such as is effected by ligature of the arteries which supply the tumour with blood. We should not expect much from the first method, since the other tissues would be equally affected by the deficiency of nutriment. The second method has been tried in some cases of inoperable carcinoma with the effect of temporarily diminishing the rate of growth.

I have previously referred to the presence of large quantities of glycogen in tumours, especially in those which are malignant. This glycogen is found wherever active proliferation is taking place and it supplies the energy necessary for the proliferation. The question arises, therefore, whether we can control this supply in any way. In glycosuria we know that the carbohydrates excreted in the urine may be derived either from the ingested carbohydrates or from the proteids of the body. The origin of the glycogen in tumours has not been investigated so fully, but probably the same two sources are available as in diabetes. An examination of the quantity of nitrogen excreted in the urine would be of assistance in determining this point, but I am not aware of any systematic investigations in this direction. The urine in malignant disease has not received the attention that it deserves. The presence of wasting and cachexia would seem to show that the proteids of the body are broken up and it is very likely that the glycogen arises, in part at least, from this destruction of proteid matter. If this is the case we cannot expect much from a carbohydrate-free diet, since the body proteids would still remain as a source of the glycogen. Is it possible, then, to remove the glycogen which has been formed? We know that malignant disease is very rarely met with in association with diabetes, and we also know that in acute diabetes wounds heal with great difficulty. The explanation of this is probably that the glycogen which is necessary for the proliferation of cells is continuously being removed from the body as glucose. It is permissible, then, to think that by setting up an artificial glycosuria we could remove the glycogen as fast as it is formed and so prevent it being available for supplying the energy necessary for the proliferation of the tumour cells. Such a glycosuria may be set up by means of certain drugs—such as phloridzin. This is a point which might well be investigated by therapeutists. I am afraid, however, that we must not expect much from such a treatment because the drug would remove the glycogen from the normal tissues as well as from the abnormal, and it would be of little use to hinder the progress of a tumour if the surrounding tissues were not able to take advantage of the occasion by reacting and absorbing it. Much depends on the question whether the normal or the abnormal tissues would yield up their glycogen most readily.

The most important question at the present time with regard to malignant disease is whether anything can be done to prevent or to retard recurrence and metastasis and to benefit inoperable cases. As I have pointed out, tumours are essentially due to intrinsic causal factors, and any treatment should, therefore, be directed towards these factors. The cases described by Sir William Bennett, to which I have referred, and numerous other recorded cases, show that malignant disease does not always proceed to a fatal termination but may become arrested and even cured. To facilitate this course measures should be taken which would raise the enfeebled resistance of the body tissues. In this connexion I may mention that arsenic, which has a markedly tonic action, has been recommended in all diseases characterised by the progressive processes and in some cases with some degree of success. At a recent meeting of the French Académie de Médecine Dr. Lucien le Roy[3] gave an account of a case of cancer of the lung in which the patient apparently recovered after treatment with arsenic and quinine. The details of this case are not yet published. Coley's fluid probably acts in the same way by producing an increased reaction of the surrounding tissue against the tumour and the same may, perhaps, be said of such procedures as oöphorectomy and feeding with thyroid extract. This last mode of treatment has been recently reviewed by Mr. H. T. Butlin[4] who comes to the conclusion that the benefit derived from it is only temporary.

The immense improvement which has taken place in the treatment of tuberculosis points the way to a similar procedure in malignant disease. This hygienic treatment acts by increasing the resistance of the body tissues to the encroachments of the tubercle bacilli and I think that it is worth while to consider whether by a similar mode of treatment, the body tissues could be encouraged to resist with greater force the encroachments of the tumour cells. I am inclined to think that if a patient from whom a malignant tumour has been removed, instead of returning to a sedentary and unhealthy mode of life, were to lead an active outdoor existence in a healthy climate with sufficient exercise and good plain food, leading as natural a life as possible, there would be less tendency for the disease to recur, and it is possible that a tumour, already present, might under these circumstances show a slower rate of growth or might even undergo a diminution.

And now, Mr. President and Gentlemen, my task is ended. I have laid before you no new hypothesis, nor have I brought forward any startling experimental results. I have endeavoured to bring to your notice the facts, mostly well known to you, concerning the process of tumour formation and to show what conclusions we can legitimately draw from these facts, and I have tried to point out to what modes of treatment these conclusions lead. Finally, I would urge that the investigation of the pathology of malignant disease should not be left altogether to the bacteriologist. Histologists, pathological chemists, clinicians, and therapeutists should all take part, for much remains to be discovered in all these branches of medical research. There is especially a great field for work in the study of the clinical characters of malignant disease such as the temperature, the urine, and the phenomena of cachexia. There is too much tendency at the present day to regard micro-organisms as everything in the causation of disease and to neglect the personal or intrinsic factors. I would also urge that the investigation should not be confined to the malignant tumours alone, but should include other tumours and those processes which are allied to tumour formation. It is only in this way that we can hope to arrive at any final conclusion as to the pathology of tumour formation.

[3] Brit. Med. Jour., Jan. 25th, 1902.

[4] Ibid., Jan. 4th, 1902.

THE HOSPITAL SHIPS OF THE METROPOLITAN ASYLUMS BOARD AND THE DISSEMINATION OF SMALL-POX.

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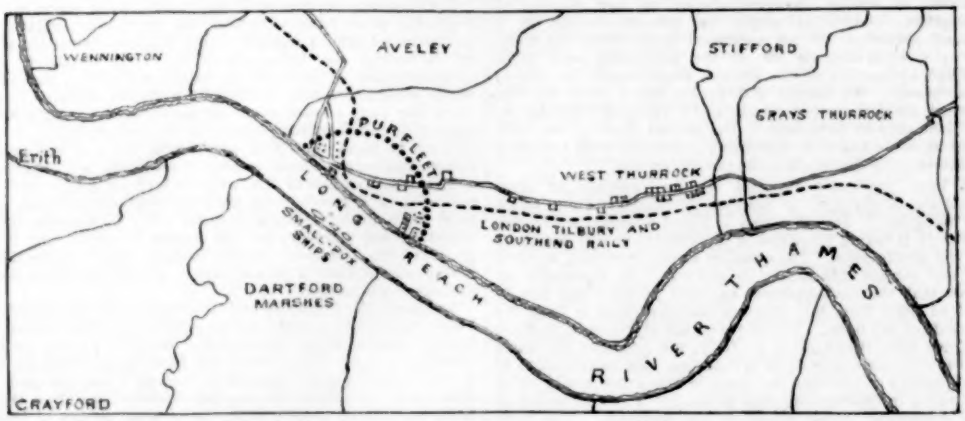
THE excessive prevalence of small-pox in the Orsett Union has for many years been notorious in the county of Essex. Investigations made during the years 1892–95 led me to conclude that the sole cause of this excessive prevalence was the proximity of the small-pox ships of the Metropolitan Asylums Board. This was also the popular view. From 1895 until the autumn of last year the county of Essex and the metropolis remained almost free from the disease. During the quarter ending June 30th, 1901, only six cases were notified in London, but soon after there was a marked increase resulting in 272 cases being notified during the third quarter. As soon as this tendency to spread manifested itself and the number of cases of small-pox in the ships increased, the opinion was openly expressed that an outbreak would speedily occur in the Orsett district and that as usual it would commence in Purfleet. By the middle of September a few cases had occurred and since then cases have followed in rapid succession, until now (Feb. 1st, 1902) about one-tenth of the whole population in Purfleet has been attacked. This outbreak soon spread to the town of Grays and to adjoining parishes, and is gradually extending into all parts of the county. The expense already incurred in providing accommodation for the patients is very considerable and in the Orsett Rural District it is almost ruinous. The subject, therefore, is of very great importance to the county.

The small-pox ships were anchored opposite Purfleet early

FIG. 1.



Map showing the position of the hospital ships in the Thames in relation to Purfleet and West Thurrock. The dotted line includes Purfleet.

in 1884. Prior to this time I cannot ascertain that there was any unusual incidence of small-pox in this hamlet, but, as the following figures show, the disease was more prevalent, as indicated by the death-rate, in the Orsett Union than in other parts of Essex. This is probably due to the fact that vaccination has until recently been very lax throughout the union.

TABLE I.—*Deaths from Small-pox in the Orsett Union and in the Remainder of the County of Essex.*

—	Orsett Union.	Remainder of the county.
Number of deaths from small-pox, 1871–1883 inclusive	25	389
Annual death-rate per 1000	0·117	0·089
Number of deaths, 1884–1900 inclusive	33	116
Annual death-rate per 1000	0·072	0·014

It will be seen that since 1884, when the floating hospital was placed in the Thames, the deaths in the Orsett Union from small-pox have proportionately greatly increased. The ratio which in the first period was 4 to 3 has since been 5 to 1. To what is this change attributable if not to the proximity of the ships?

The accompanying map shows the position of the floating hospital in the Thames, relatively to Purfleet and West Thurrock parish in the Orsett Union. Within the half-mile radius of the ships there are only about four cottages on the Essex

TABLE II.—*Relative Prevalence of Small-pox in certain Districts of the County of Essex.*

—	Number of cases.	Proportion relatively to population, Purfleet being taken as 100.
Purfleet	15	100·0
West Thurrock (whole of)	35	46·0
Orsett Union without West Thurrock	48	7·0
Essex County without Orsett Union	658	3·5

side of the river, whilst the three-quarter mile radius includes all the hamlet of Purfleet which is a portion of the parish of West Thurrock. Beyond this limit the only groups of houses are in West Thurrock on the road to Grays. At Purfleet there are paper-mills, oil-stores, &c., employing many hands, some of whom reside at Grays. In investigating the cases which occurred during 1892–95 there was no evidence of infection from these works or from the rubbish-tip used by a London vestry. During these years 15 cases occurred in the Purfleet area, 28 in the remainder of the West Thurrock parish, and 52 in the rest of the union. The relative prevalence is given in Table II.

Within the three-quarter mile radius from the ships cases were twice as numerous in proportion to the population as in the whole of the parish of West Thurrock, 14 times as many as in the remainder of the union, and 30 times as numerous as in the remainder of the administrative county. In other words, the further the district from the ships the less the number of cases. The aerial conveyance of infective material alone appears to account for this excessive prevalence.

TABLE III.—*Progress of Small-pox in the County of Essex for the period extending from August, 1901, to January, 1902.*

—	Population.	1901. August.	September.	October.	November.	December.	1902. January.	Total.
Barking	21,547	0	0	0	2	2	11	15
Chingford	4,372	0	0	0	2	0	0	2
Colchester	38,350	0	0	0	1	0	1	2
East Ham	95,990	0	0	3	16	11	21	51
Grays	13,831	1	2	0	3	32	55	93
Leyton	98,900	0	0	1	2	3	7	13
Leigh	3,663	0	0	0	0	0	1	1
Maldon	5,564	0	0	0	0	1	0	1
Romford	13,656	0	0	1	1	6	22	30
Shoebury	4,081	0	0	0	0	1	0	1
Southend	28,857	0	0	0	0	1	0	1
Walthamstow	95,125	0	2	0	0	1	16	19
Woodford	13,806	0	0	0	0	1	0	1
Other urban districts	138,000	0	0	0	0	0	0	0
Billericay Rural District	17,504	0	0	0	0	0	1	1
Chelmsford Rural District	23,717	0	0	0	0	0	2	2
Halstead Rural District	10,176	0	0	0	0	1	0	1
Maldon Rural District	14,630	0	0	0	0	0	1	1
Orsett Rural District	19,880	0	8	9	33	73	74	197
Rochford Rural District	14,512	0	0	0	0	1	3	4
Romford Rural District	19,015	0	0	0	0	5	13	18
Other rural districts	121,310	0	0	0	0	0	0	0
Totals	—	1	12	14	60	139	228	454

The present epidemic has afforded me an opportunity of studying more carefully the effect of the floating hospital. The earliest case of small-pox recorded in the county last year was that of a man employed during the day at Purfleet but residing at Grays; this was in the last week in August. The progress of the disease in the county since is shown in Table III.

Grays Urban District forms part of the Orsett Union. The number of cases in this union is therefore 290, the population being 33,721; in the remainder of the county in which cases of small-pox have occurred there have been 162 in a population of 523,465, or taking the whole county save the Orsett Union 162 cases in a population of 782,700. Therefore, the cases per 1000 of the population in the Orsett Union were 8·6, while those in the remainder of the county were 0·21 per 1000. In proportion to the population there have been 40 times as many cases in the Orsett Union as in the remainder of the county.

The only centre of population within a mile of the hospital ships being the hamlet of Purfleet and the nearest parish being West Thurrock we should naturally expect these portions to have suffered most severely if the ships are the foci of infection. That this is the case can be demonstrated in a most conclusive manner.

Up to Feb. 1st there had been 290 cases of small-pox in the Orsett Union; 42 of these occurred in the hamlet of Purfleet within the three-quarter mile radius shown on the map, 50 in the remaining portion of the West Thurrock parish, and 198 in the other parishes of the union. In the following table the relative incidence of the disease in these districts is given, calculated on the basis of the last census returns and upon a census of the population made for the purpose by my assistant, Mr. G. Sowden:—

TABLE IV.—*Incidence of Small-pox in the Districts of Purfleet, the Remainder of West Thurrock, and the Remainder of the Orsett Union.*

—	Purfleet hamlet.	Remainder of West Thurrock.	Remainder of Orsett Union.
Population	479	2106	30,578
Cases of small-pox	42	50	87
Rates per 1000 of the population...	88	24	2·8

It will be seen that nearly four times as many cases (in proportion to the population) have occurred in Purfleet as in the remainder of West Thurrock and 30 times as many as in the rest of the Orsett Union, notwithstanding the epidemic prevalent in Grays. The next table, showing the condition of the population with reference to vaccination, proves that there is nothing in this to account for the extensive and persistent character of the outbreak.

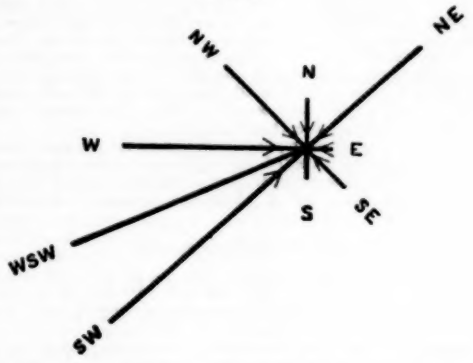
TABLE V.—*Statistics of Vaccination in Purfleet.*

—	Vaccination in infancy only.	Vaccination in infancy and since revaccinated.	Not vaccinated but had small-pox.	Neither vaccinated nor had small-pox.	Total.
Adults ...	111	171	8	4	294
Children 12 years of age and under ...	70	106	2	7	185

Moreover, the Orsett Rural District and the Grays Urban District possess a joint hospital (some miles from Purfleet) which was promptly used for the reception of patients. From my own observations I am convinced that more was done in this district than is usually done in such districts for preventing the spread of the disease, but these efforts have been futile since the focus from which the disease is being spread still remains.

There is only one other parish in the Orsett Union which is near the hospital ships. This is Aveley with a population of 1061. During the period under consideration 22 cases have occurred in this parish, or 11·3 per 1000 of the population—a further confirmation of the air-borne character of the infection

FIG. 2.



Wind rose, August 18th, 1901, to Jan. 31st, 1902, showing prevalence of south-westerly winds.

Still more cogent proof, however, is obtained when the relation between the prevalent wind and the distribution of the disease is considered. The wind rose shows that by far the most prevalent wind has been from south-west and west-south-west and would therefore blow over that portion of Purfleet to the south of the railway. (See map.) Between the cottages here and those to the west of the railway there is a considerable area upon which there are very few houses. To the west of the railway there is a group of 32 houses lying almost due north of the ships. On very few occasions has the wind blown in this direction, hence if the infection is air-borne the inhabitants of this portion of Purfleet should have almost escaped. This is exactly what is found. In West Purfleet, with a population of 137, there has been only one case, whilst in South Purfleet, with a population of 342, there have been 41 cases. The attacks in West Purfleet were 0·8 per 100, while in South Purfleet they were 12·0 per 100. In other words, in the cottages nearest and exposed to the prevailing wind out of every eight persons one has been attacked. If such an epidemic prevalence had occurred in London there would have been over half a million cases during the past seven months.

In connexion with this outbreak in Purfleet it is interesting to note that out of the adult population, containing 12 who had not been vaccinated prior to the commencement of the epidemic, eight persons had had small-pox, and three have contracted the disease during the epidemic. Amongst the children were nine who were unvaccinated; one had had small-pox some two years ago, two were too young to be vaccinated, and of the remaining six five have since contracted small-pox. Taking both adults and children (excluding the two infants) there were 19 unvaccinated persons, of whom nine had had the disease before the epidemic, leaving 10 who had neither been vaccinated nor had had small-pox. Of these eight, or 80 per cent., have contracted the disease during the past seven months.

When cases were occurring in Purfleet in 1895 and the attention of the Metropolitan Asylums Board was directed to this fact the opinion was expressed that this was due to the proximity of the ships. It was then suggested, however, that the infection was spread by personal contact with visitors and others passing to and from the ships. This intercourse was stopped and for years past, I am informed, there has been no intercourse whatever between the ships and the Essex shore. Any infection, therefore, from the ships must have been air-borne.

Besides the cases referred to of residents in West Thurrock I have notes of 15 others, persons engaged in works there but residing in Grays, Aveley, and Rainham. The last-named parish is in the Romford Rural District but is within a four-mile radius of the ships to the north-west.

It is exceedingly difficult to ascertain to what distance the infection may be carried by the air, but my impression is that in the direction of the wind it may be carried two, or possibly three, miles. I doubt very much whether the influence extends as far as Grays which lies from three to

four and a half miles from the ships. The disease once introduced into West Thurrock is carried by the men engaged at the cement and other works into Grays and other parishes. It has been surmised that the enormous volume of infected sewage poured into the river from the ships may explain the incidence of the disease in the parishes adjoining the river. Of this there is at present no proof. The evidence usually adduced is based on the fact that several men who have contracted the disease had been accustomed to bathe in the river. I am decidedly of opinion, however, that this sewage should be treated in some way before it is allowed to flow into the Thames.

I desire to express my indebtedness to my assistant, Mr. Sowden, who has collected for me a large mass of information with reference to small-pox prevalence in the Orsett Union, a portion only of which has been utilised in the present paper.

Chelmsford.

ON CLEFT PALATE.

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(Concluded from p. 438.)

FROM the consideration of the facts narrated in the previous article the indications for the treatment of the sufferers from cleft palate seem to me to be clearly as follows. First, we must endeavour to increase the vital capacity of the sufferers by teaching them how to breathe properly and efficiently. To do this the demand on the expenditure of energy should at first be reduced to the minimum requisite to fill and empty the chest to its utmost, avoiding any exercise of the muscles which does not bear directly in bringing this about. In this manner as much energy as possible is accumulated at a minimum of cost to the total energy or capacity for work of the individual. To make these children perform systematic exercises for purposes other than increasing the respiratory capacity is a most wasteful procedure and quite beyond that permissible by the amount of their usual income of energy. By increasing their breathing capacity you supply a proportionately larger quantity of oxygen, which enables them as individuals and their several tissues as component parts to perform physiological functions in a more satisfactory manner. The improvement can be gauged by measuring the daily progressive differences between the measurements in extreme inspiration and extreme expiration. Of course, the air breathed should be as good as possible. Secondly, the mouth must be kept shut habitually and certainly during the respiratory exercises air must be driven freely and forcibly in and out through the naso-pharynx alone. If any mucus exists in the nasal passages it must be cleared by blowing the nose vigorously. If this treatment is pursued efficiently and thoroughly the nasal catarrh is removed as well as the irritation and hypertrophy of the lymphatic tissues in the pharynx and there is increase of the lumen of the naso-pharynx with the bony and other structures directly dependent on its development for their complete evolution. The rate at which this result is obtained varies inversely with the chronicity of the condition and with the age of the child. The form of the alveolar arches and of the palate alters, the arch opening out in either case. The change in form which the whole face undergoes in consequence of the increase in size of the naso-pharynx and the cavities communicating with it is in some cases most remarkable, attracting at once the attention of those who have not seen the patient in the interval during which the treatment has been adopted. As to how this is best done must vary largely with the intelligence of parents, their perseverance, and the time and means which they have at their disposal.

In out-patient practice from the circumstances of the parents the treatment can rarely be carried out in the same effectual manner that is possible in private practice, where the patient is under the immediate control of the medical attendant who sees that his instructions are strictly enforced. In hospital work it is well to give the mothers a printed form containing the following or similar instructions: "Put the child on the back three times a day for half an hour at a time, and make it breathe in and out as deeply as possible through the nose, the mouth being kept shut," and to endeavour to interest them in its application.

In the treatment of this condition, as of many others with which we are constantly confronted, in hospital practice measures have often to be adopted of a more serious nature and at an earlier period of the disease than would be considered advisable for one moment in the case of patients in comfortable circumstances, where the rest, care, and change that they could command would probably produce far better results in the long run. Among the better class of mothers, such as the wives of policemen and mechanics, results will frequently be obtained almost as good as those obtained in private practice; but the poorer portion of the community have neither the time nor the intelligence to follow these instructions, nor will they often devote their energies to the duty. The surgeon can readily determine whether his treatment is carried out efficiently or not by keeping a diary in which the differences between the measurements of the chest in extreme inspiration and extreme expiration must be entered daily. These daily observations will keep him informed of the degree of progress which his patient is making. Should this variation not show a steady increase in amount he can rest assured that his instructions are not being carried out properly.

One of the results of improving the respiratory capacity which is of considerable importance is the steady increase in weight which ensues. The following is a nurse's reports of the progress of a girl under her care for a month and it affords some indication of the results that can be obtained. The measurements are taken at the level of the nipples and represent the inspiratory and expiratory limits. They are certainly better than the average for the reason that every care was taken to make the treatment as effective as possible.

	Inspiration.	Expiration.	Weight.
Feb. 1st	30 inches.	28½ inches.	7 st. 12 lb.
,, 2nd	30½ ,,	,, ,,	—
,, 3rd	31 ,,	,, ,,	—
,, 4th	31½ ,,	,, ,,	—
,, 5th	31½ ,,	,, ,,	
,, 6th	31 ,,	,, ,,	
,, 7th	32 ,,	,, ,,	—
,, 8th	32 ,,	,, ,,	7 st. 13 lb.
,, 9th	32 ,,	,, ,,	—
,, 10th	32½ ,,	,, ,,	—
,, 11th	32½ ,,	,, ,,	—
,, 12th	32½ ,,	,, ,,	—
,, 13th	32½ ,,	,, ,,	—
,, 14th	32½ ,,	,, ,,	—
,, 15th	32½ ,,	,, ,,	8 st. 2½ lb.
,, 16th	32½ ,,	,, ,,	—
,, 17th	33 ,,	,, ,,	—
,, 18th	33 ,,	,, ,,	—
,, 19th	33 ,,	,, ,,	—
,, 20th	33 ,,	,, ,,	—
,, 21st	33 ,,	,, ,,	—
,, 22nd	33½ ,,	,, ,,	8 st. 5 lb.
,, 23rd	33½ ,,	,, ,,	—
,, 24th	33½ ,,	,, ,,	—
,, 25th	33½ ,,	,, ,,	—
,, 26th	33½ ,,	,, ,,	—
,, 27th	33½ ,,	,, ,,	—
,, 28th	34 ,,	,, ,,	8 st. 7½ lb.

The treatment was continued uninterruptedly, being superintended by the sister of the patient, and on May 27th of the same year, four months having elapsed since it was started, the following report was sent me: Inspiration, 36 inches; expiration, 29½ inches; and weight, nine stones four pounds. This shows the following increases: Inspiration, six inches; expiration, one inch; and weight, one stone eight pounds.

As the respiratory capacity improves so the child obtains energy to spare, and it becomes more active in the full enjoyment of life. If this treatment is adopted under favourable circumstances one of the links in the sequence—

viz., the enlargement of the lymphatic tissues in the upper part of the pharynx—will disappear, and the so-called adenoids will no longer exist, since I presume the term cannot reasonably be applied to the structure in its normal condition, but only in its chronically inflamed state. That this does take place I have satisfied myself with absolute certainty on very many occasions, and this has also been the experience of many others who have applied the principles involved in the treatment effectually. Authorities seem to form very different estimates as to the quantity and density of lymphatic tissue which the patient is justified in retaining without being dubbed "adenoids," and urgently calling for its removal. Specialisation in medicine and surgery tends often to extreme narrowness of vision on the part of the so-called specialist. It attempts to appear to progress and it confuses issues of causation by using unmeaning terms which are apparently not capable of accurate definition. Words like "adenoids," and the equally indefinite one of "hyperplasia," instance products of these processes. They possess different meanings in the minds of different people and even under different conditions.

Not only does the enlargement of the lymphatic masses in the naso-pharynx subside under this treatment, but there is also a corresponding improvement in all the conditions I have described as being consequent on imperfect oxygenation of the blood. This is now fully recognised by a large number of able and experienced medical men who apply in their practice the principles indicated in this and previous papers. Any person of average intelligence should be able to appreciate these views were it not that in many cases the medical creed of the individual and his interests coincide only too closely, his capacity to grasp general principles being in consequence unconsciously and involuntarily limited.

The only circumstances under which I can understand the surgeon being warranted in attacking the pharyngeal tonsil are: (1) when the condition has been so thoroughly neglected that the child is unable to drive air through an undeveloped naso-pharynx unless the enlarged pharyngeal tonsil is surgically removed; (2) when for some reason or other, such as considerable difficulty in forcing air through the nose, serious ear trouble, important school or other engagements, peculiar circumstances, &c., it is necessary or advisable by operative measures to shorten the duration of the treatment; and (3) when the child is too young to do what it is told. In private practice the first condition should not exist, and it only arises because absolutely no attention is paid to the manner in which a child performs by far its most important function—namely, respiration, by means of which the oxygen, the prime factor of life, is distributed to the several tissues in the body. Many inquiries are made as to the manner in which the intestines perform their functions, and if, because of an imperfect supply of oxygen and owing to the constant assumption of sedentary and resting habits, these viscera are not fit to carry out the work they should do in a healthy subject, they are stimulated in an unnatural manner by drugs. Too often one finds that the patient who exhibits no thoracic respiration whatever has the spine fixed in a position of extension by a steel support or by some form of brace; while at other times exercises are ordered which rapidly exhaust the child's imperfect capital of oxygen. This all results from an insufficient knowledge of the mechanics of the respiratory process, and especially of the important part which the spinal column takes in it. The physiologist has misled the profession chiefly by his attempts at illustrating the respiratory process by means of a mechanism in which the spinal column is represented as a rigid immovable rod. As is too often the case, the generally received teaching is absolutely false, since the variations in the spinal column are much more conspicuous than those of the rest of the wall of the thorax. I would, therefore, urge that the mode in which the organism is supplied with oxygen should receive at least as much attention as the rate at which the sewage products are evacuated from the body. If the former is done, and done well, the various degrees of adenoids, the conditions on which they depend for their causation, the several varieties of resting deformities, and many other states directly and indirectly due to imperfect aeration will disappear. Let medical men treat their patients in a common-sense manner, regarding them simply as machines, recognising that they bear only a mechanical relationship to their surroundings, and they will soon observe a rapid improvement in their physique. When difficulty is experienced in inducing the patient to pursue such respiratory exercises as increase the vital capacity it is well to place a trained nurse in charge, when progress is generally rapidly made even in very young children. I hope that we may soon have the advantage of hearing expressed fully the views of dental surgeons upon that portion of this question which interests them, especially as it is clear that their opinions and observations must be very valuable indeed.

The dental aspect of the case appeals to me most strongly for the reason that the observations of the dental surgeon are recorded indelibly in plaster casts. These are capable of the most accurate definition and measurement and do not depend mainly upon the statement of the observer which must vary of necessity with his education and interest. My dental friends have been of the greatest service in helping me to obtain accurate information as to the changes that ensue in the jaws and palate, not only from the absence of normal aeration, but also from the restoration of that function. I trust that my views and experience may be of some use to dental surgeons in the treatment of the deformities that they meet with so constantly in the present day and especially of superior protrusion.

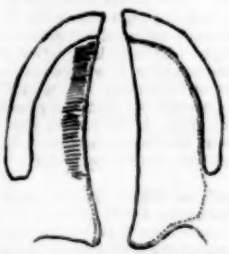
When the septum between the naso-pharynx and the mouth is incomplete the mechanical factor upon which the nasal cavities depend for their development is in abeyance, and therefore they do not increase proportionately in size. In consequence the sides of the alveolar arch become approximated, as do the edges of the cleft, and the portions of the roof on either side become more vertical and extensive. I will call particular attention to this, since it will be found that many surgeons use as an argument in favour of delaying the operation that the changes in the roof of the mouth which I have indicated take place in time and render surgical interference more simple at a later date. In other words, the less developed the nose the more easy the operation for the closure of a deficiency in its floor. Since the calibre of the nasal cavities bears an inverse proportion to the height of the palate, and as the lower part of the nasal fossæ is that through which air is chiefly transmitted, this is especially encroached upon by any abnormal increase in the height of the palate. Being aware of the mechanics of the naso-pharynx, it will be easy to recognise the immense importance of separating the mouth from the nose as early in life as possible, so that the pressure exerted by the air as it passes through the former can be brought to bear upon the walls of the space and the nasal cavities and the adjacent bones influenced by normal developmental factors.

In order to recall to mind the practice followed by surgeons of the present day I will quote a few lines on the treatment of cleft palate from Treves's "System of Surgery," which is, I think, one of the most recent English text-books: "In the infant the cleft is by almost all surgeons rightly deemed inoperable. In the child, after the age of two years, the chief importance of the malformation is the defect of speech which is occasioned. It is well, therefore, to be prepared for the fact that the closure of the cleft in no way remedies the defect of articulation. Of prime importance is the question, At what age should the operation be performed? It may, I think, be laid down that whilst it is never wise to operate on a child under three years of age, the time of election is from this age up to six years." These definite statements, which are picked out from the text, we may regard as representing generally accepted views and as open to our criticism. The author does not appear to adduce any argument in support of the first statement—viz., that surgeons are acting wisely in avoiding operations in infants; therefore, we may satisfy ourselves by merely asserting that, in our opinion, this statement is not borne out by our experience, but that the reverse is true. The second statement is, I fancy, partly correct. Some patients will, however, complain more of the discomfort which they experience through food getting into the nose than from the consciousness of the fact that their voice differs from the normal. The chief disadvantage of the deformity depends upon whether it is regarded from the point of view of physical discomfort to the sufferers or of depreciation of them in the opinion of their fellow-creatures, since the peculiar intonation, *per se*, causes no discomfort and is often not recognised by the speaker. Now as to the statement that "it is well further to be prepared for the fact that the closure of the cleft in no way remedies the defective articulation." This I am prepared to deny if the operation is performed during the period of growth. The reason that the

patient's intonation is peculiar, or, as it is usually called, nasal, is that the outgoing air does not pass through the nose, and when the cleft is closed at the usual time there is in the extremely undeveloped nose very little space through which air can be transmitted, and as far as I am aware no effort is made by surgeons to develop this space after operation. This is probably due to the fact that they had not considered the mechanics of this channel. If, however, the space is systematically and forcibly ventilated the calibre of the naso-pharynx is increased, and a considerable proportion of air passes through it, so that the so-called nasal character of the voice is diminished very greatly. Still, assuming this statement and the preceding to be absolutely correct, in what light are we to regard the next? "Of primary importance is the question, At what age should the operation be performed? It may, I think, be laid down that whilst it is never wise to operate upon the child under three years of age the time of election is from this age up to six years." If we allow the second and third statements to be true, as they are approximately so, it is difficult for the ordinary mind to grasp the logical sequence of the conclusion deduced from them. The treatment of cleft palate, like the greater part of surgery, has been a matter of creed and tradition and has not been arrived at in any reasonable manner. In order to treat these cases as efficiently as possible no time whatever should be lost in restoring to the nose its normal physiology, or, in other words, in giving back to it the mechanical factor which alone determines its development and that of the other structures dependent on it to a considerable extent for their normal form.

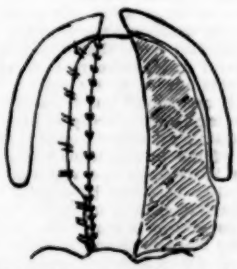
There are next for consideration the following questions—viz.: 1. What is the best age for operation? 2. What is the best method of performing the operation? 3. How and when can any complication such as harelip be met to the greatest advantage?

FIG. 16.



A complete cleft of the palate. The dotted lines indicate the incisions, and the shaded area the portion of muco-periosteum elevated from the subjacent bone.

FIG. 17.

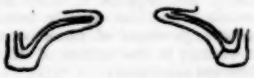


The flap fixed in position by a double row of sutures. The shaded part shows the surface of hard palate stripped of muco-periosteum.

1. *Age.*—I find that as a rule the best age for operative interference is during the fourth or fifth week, providing that there is no special indication to the contrary, by which I mean bronchitis, diarrhœa, and the results of bad feeding generally. Under such circumstances it is necessary to postpone the operation till the condition of the child is satisfactory. At the same time if the child is vigorous and healthy I prefer to operate as soon after birth as possible. The advantages of operating at this early period are: (1) that the child bears the operation very well; (2) that but slight subsequent discomfort is experienced and the child will take food with satisfaction within an hour or two of the operation; and (3) that the amount of hæmorrhage is very slight and is easily controlled.

2. *Method of operating.*—Though the details of the operation must vary considerably in a small proportion of the cases, in a large number I endeavour to raise a flap of mucous membrane and periosteum from one side and to fasten it securely beneath the separated margin of the opposite side. This is to a certain extent a modification of a mode of treatment by flaps introduced by the late Mr. Davies-Colley. The measures which I usually adopt can be best illustrated by diagrams. Fig. 16 represents a cleft

FIG. 18.



Showing in vertical transverse section the line of incision along the margin of the flap.

FIG. 19.

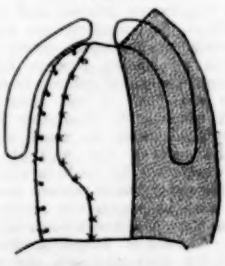
Showing the flap raised and fixed in position. It is a transverse section through Fig. 17.

running through the whole of the hard and soft palate. A flap which is attached to the margin of the cleft is turned up from the bone of the hard palate and is dissected off the soft palate. Its extent must vary with the area to be closed. There is practically no limit to the amount of flap that can be obtained, since the whole of the muco-periosteum covering the under and outer surfaces of the edentulous alveolus may

FIG. 20.

This is a cleft of a breadth sufficient to require the employment of a flap from the entire alveolus. The dotted lines indicate the incisions, that to the left of the cleft being on the nasal surface of the palate, while that on the right is on the buccal aspect.

FIG. 21.

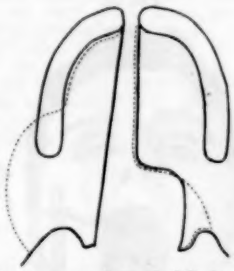


The flaps sutured in position. The shaded area represents the surface laid bare by the removal of the flap.

be included in it, and this is sufficient to fill any gap in the hard palate, however large (see Figs. 20, 21, 22, and 23). Great care must be taken not to tear away this flap from the margin of the cleft in the hard palate. The latter part of

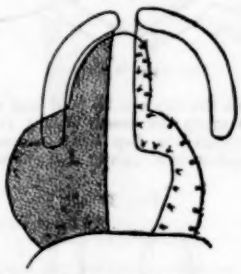
the operation can be done very well with a knife or by means of very sharp-pointed scissors. In doing this the descending palatine vessels are exposed as they emerge in a loose periosteal sheath from a single foramen. These can be "cut

FIG. 22.



This represents a common form of cleft, in shape like a Queen Anne chair in profile. The dotted lines on the nasal aspect to the right of the cleft and on the buccal aspect to the left of the cleft indicate useful incisions.

FIG. 23.



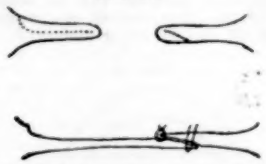
The flap in Fig. 22 in position and sutured.

long," and any hæmorrhage can be readily controlled by ligature, by torsion, or by forcible compression.

At this early period of life the vessels are very small and the amount of blood lost is always trifling. On no occasion have I ever felt the slightest anxiety on that account. This was certainly not my experience when operating on children over three years of age. Indeed, it was in a case of cleft palate, apparently moribund from loss of blood, that I first applied the method of intravenous injection of saline solution which has since been the means of saving so many lives, not only from hæmorrhage, but also from exhaustion, as in cases of intestinal obstruction, &c. The case was described in THE LANCET of Sept. 12th, 1891, p. 626, under the heading of "A Surgical Tribute to the late Dr. Wooldridge." There had been published in the Transactions of the Obstetrical Society of London for the year 1879 the report of an investigation on transfusion carried out at the request of that society by Professor Schäfer in which he asserted that the intravenous injection of saline solutions served no useful purpose whatever and insisted that it should not be employed. Needless to say, the researches made by Dr. Wooldridge completely negatived the conclusion arrived at in the report. The following are Professor Schäfer's own words (page 333): "Solution of salt, and any other watery fluid, is without permanent benefit and should never be used for transfusion."

To close the cleft an incision is made along the opposite free margin of the cleft in the hard palate and the muco-periosteum is raised from the bone for about a quarter of an inch. The soft palate on the same side is pulled forward, being held in forceps, or a thread may be passed through its extremity. It is split in the same manner as is indicated in Fig. 24, none of it being removed. If more material is required a flap is cut from the posterior aspect of the soft palate so as to increase still further the area of the raw surfaces which can be brought into accurate apposition with the upper surface of the flap reflected from the opposite side. The reflected flap is first introduced between the separated edge of the muco-periosteum and the bony palate and its margin pinned at intervals by sutures. Then the edge of the flap of the soft palate is similarly attached to the outer limit of the raw surface on the back of the opposite margin by separate sutures. The free limit of the elevated border is attached securely to the raw

FIG. 24.



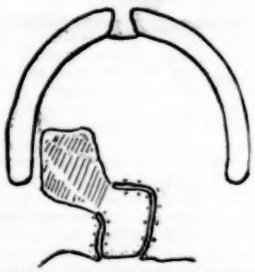
Showing the manner of treating the soft palate.

surface of the reflected flap by sutures. In this manner two large raw surfaces well supplied with blood-vessels are retained immoveably in accurate apposition and free from strain and are placed under the most favourable circumstances for immediate union. In many cases, especially in narrow clefts limited to the soft palate, I find that the old

FIG. 25.

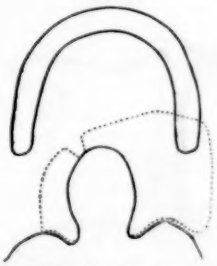
A mode of treating original or residual cleft in soft palate.

FIG. 26.



Showing flap reflected and sutured in position.

FIG. 27.

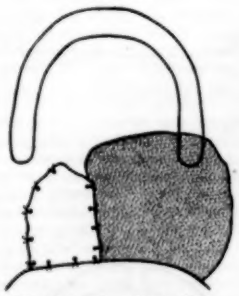


A cleft in the soft palate of such a form and tenuity as to require an abundant flap. The dotted line to the right of the cleft represents the incision along the buccal aspect of the palate, and that to the left the incision along the pharyngeal aspect.

method of freshening of the edges of the divided palate, tension being removed from the line of suture by vertical incisions, gives excellent results. This is clearly of no use when the cleft is horseshoe-shaped. It is very unusual for

any portion of the flap-covering in the cleft in the hard palate to give way, but occasionally the margins of the soft palate may come apart. To remedy this after an interval of two or three weeks a flap should be taken from the side of the hard and soft palate opposite to that utilised on the first occasion and be retained by the same method in the cleft, one of the methods indicated in Figs. 25, 26, 27, and 28 being employed. The area of

FIG. 28.



The flaps sutured in position.

the flap employed must necessarily vary with the size and form of the cleft and the thickness and vascularity of the part. By this means the sutured surfaces are exposed to a minimum of strain. To render this method of operating in the young infant possible it was necessary to devise an instrument for the purpose, since those in common use at the time were inefficient. The needle-holder and needles shown in Fig. 29 meet all possible requirements. The

FIG. 29.

Needle-holder and needles.

needles are made straight and full-curved, and they vary in size from three-eighths of an inch upwards. For pinning the flap the straight needles are best suited while the curved ones are more serviceable in the later stages of the operation. The sutures used are of the finest silk and are

FIG. 30.

Mouth gag.

employed dry to facilitate threading. The gag which I employ is one that was made for me by Messrs. Down Brothers some time ago. It is perfectly self-retaining owing to the presence of small, sharp teeth, which bite into the gum behind the molars. It is depicted in Fig. 30 and is shown in position in Fig. 31. It is well to be provided with several sizes of this gag. The gag most generally used is too powerful for the infant only four weeks old. Messrs. Weiss made me a very useful pair of forceps which have terminal teeth and approximating serrated plates. (Fig. 32.) By

FIG. 31.

Mouth gag in position.

means of the teeth the flap can be held and with the plates the operator can grasp the needle firmly and readily and can draw it through the flap when necessary. Messrs. Down Brothers constructed lighter and shorter instruments

FIG. 32.

Forceps with terminal teeth and approximating serrated plates.

which I have also found useful. (Figs. 33 and 33 A.) As a rule, the needle is taken up and drawn through the flap by the needle-holder.

As I tapped a perfectly new source I was inundated with material, the mothers being delighted to have the deformity removed as early in life as possible. Owing to this circumstance I have possibly performed more operations for cleft palate for some time than any single surgeon has ever done or ever will do in the future. It now seems almost impossible to look back to the time when clefts in the palate in children of three years old and upwards were closed with large clumsy needles of various shapes attached to long handles and called cleft-palate needles. As soon as it is possible the respiratory capacity should be carefully attended to and all air should be driven habitually through the nose

only. Then by vocal exercises phonation must be made as perfect as it can be.

3. *Harelip.*—Many children with cleft palates are also afflicted with harelip. Contrary to universal custom I leave the latter untouched till the fissure in the palate has been closed, since it affords a larger aperture and renders the cleft very much more get-at-able and the operation correspondingly easier to perform perfectly and with a minimum of damage to the soft parts than it would be if the harelip was treated in the first instance. I do not pretend to obtain the same results in the treatment of harelip as are apparently got by some surgeons,

FIG. 33.

FIG. 33 A.

Forceps with terminal teeth for manipulating the flaps while the incisions are being made.

if one can place any reliance whatever upon the diagrams which they use to illustrate their methods of procedure. These, I fancy, are purely imaginary, since they appear to be able to restore the imperfectly developed lip to its normal form and to its relationship to the lower lip. My experience is that, excepting in slight cases, the upper lip always remains smaller than normal and disproportionate in size to the lower. In some few cases I have obviated the relative loss by filling in this gap by a flap obtained from the lower lip, with which it remains continuous till it has united firmly to the upper. I would point out also the advantage of passing all the sutures through the lip from within outwards, since by so doing the margins of the cleft can be brought into firm and accurate apposition, and are enabled to control the hæmorrhage without scarring the skin surface, as is frequently done when the sutures pass through the skin in the usual manner

FIG. 34.

Represents a case of double harelip with considerable forward displacement of the premaxilla.

Besides, they can be left in much longer, as their presence causes no discomfort and retains the raw surfaces in accurate apposition. The scarring of the lip was a more marked feature when the old-fashioned harelip pins were employed.

There is a form of cleft palate combined with double harelip in which the premaxilla is attached to the under surface of the septum of the nose immediately behind its tip (Fig. 34). In such cases I have found that the most satisfactory procedure is to close one of the fissures in the lip in order to supply the premaxilla with blood-vessels from a source other than the septum. When this has been effected the premaxilla can be cut away from the septum, the mucous membrane covering it and the corresponding surfaces of the jaw can be removed, and the bone being trimmed and replaced can be wired securely in position. The remaining fissure in the lip can then be closed, but by leaving it open till this period more room to work in is obtained and the details of the operation on the septum, &c., can be carried out with greater facility and accuracy.

Cavendish-square, W.

BURNS FROM CELLULOID.

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BURNS from celluloid seem to be by no means uncommon. The *Weekly Scotsman* of Jan. 19th, 1901, page 3, mentions an accident of this nature in which a woman, "kneeling in front of, but by no means very near to, a clear red fire, and having an imitation tortoise-shell comb in her hair on the top of her head, became conscious of a smell of burning and a very disagreeable vapour around her, and on putting up her hand found that her head was on fire. She poured water over it and got it out, but not before a great deal of her hair was burnt. There was no other light but the fire, and it was not a case of sparks. The comb must have ignited of itself." The same paper mentions the case of a "girl at Peckham whose imitation combs caught fire exactly in the same way and who died in a London hospital 24 hours later from the injuries received"; and also of a "married woman at Newport who only last week lost the sight of both her eyes from a similar accident." It concludes a short article on the subject thus: "I may mention another fruitful source of danger—the celluloid collars which many children wear, and some adults too ..... they are fearfully inflammable. The hot ash from a cigarette, cigar, or pipe falling on them sets them in a blaze at once, and as they are tightly fastened round the throat it is almost impossible to remove them before serious injury has been inflicted. A leading medical journal some time ago cited several accidents which had arisen from this cause."

Dr. Irvine Fortescue, assistant professor of surgery, has collected for me the following references to celluloid burns which have appeared in the leading English medical journals during the past 10 years:—

1. THE LANCET, March 26th, 1892, p. 708. Experiments with articles made of celluloid. Portions placed 18 inches in front of a fire swelled and gave off dense fumes at 110° C. (230° F.). Artificial ivory acted similarly at 145° C. (261° F.). The writer (anonymous) suggests that celluloid should be made non-inflammable by the addition of some chemical.

2. THE LANCET, May 15th, 1897, p. 1386. A boy wearing a collar made of celluloid, tied with a string, having no knife to cut the string, attempted to remove the collar by burning the string. The collar ignited and lighted drops of the composition fell on his clothing. His throat and face were badly burned.

3. THE LANCET, May 22nd, 1897, p. 1426. Artificial ivory, horn, &c., are nitro-compounds and are almost explosive. Accidents from this cause are increasing.

4. THE LANCET, May 29th, 1897, p. 1481. Fires in Paris due to kinematograph films igniting.

I have myself been made acquainted with several cases of what appeared to be the almost spontaneous ignition of celluloid hair-combs, the one which impressed me most, as having been attended with the severest results, being that of a patient of Dr. L. B. Beddie of Fraserburgh, who, when seated in a drawing-room before a fire which, though burning well, was not unusually strong, found her head enveloped in smoke and flame from the ignition of a comb amongst her hair, and before the flames could be extinguished had a portion of her scalp destroyed over an area of, perhaps, four by one and a half inches. The burn was of the third degree, took many months to heal, and resulted in the total destruction of the hair over the injured area.

Having received information about the same time of several similar accidents, of which I need not give details, where women's and children's hair was set on fire by celluloid combs while they were seated, perhaps drying their hair, in front of ordinary fires, none of which cases fortunately proved so severe as that just reported, I requested the assistance of Professor Japp, professor of chemistry in the University of Aberdeen, as to the ignition point of articles sold as celluloid and generally as to what was known on the subject. This he most kindly gave me and to the following effect. His experiments were mostly made with pieces of combs worn by Dr. Beddie's patient and identical with that by which she had been injured. Professor Japp wrote as follows:—

I have ascertained, as nearly as it can be done, the ignition temperatures of the two specimens of celluloid—light coloured and dark coloured—which you submitted to me for examination. I cannot detect any difference in their behaviour on heating, but they are both unduly sensitive to heat. On dropping small pieces into a test tube heated to a perfectly constant temperature of 270° F. they began to swell up and froth, and within one and a half minutes from the beginning of the experiment they suddenly decomposed with a puff of smoke, leaving a charred residue. On one occasion I succeeded, by gradually raising the temperature, in inducing this sudden decomposition as low as 264° F., but this difference is very slight; moreover, in this way of performing the experiment much depends on the rate at which the temperature is raised; if this is done very slowly one may effect a slow decomposition, and the residue is not charred.

The following data with regard to the action of heat on celluloid are taken from the "Journal of the Society of Chemical Industry," vol. x., p. 564. They will show you that this substance is expected to exhibit greater stability than the foregoing specimens: "At 194° F. it becomes very plastic, further heat softens it, and at a temperature of 285° F. it decomposes into pyroxyline and camphor aldehyde. At 353° F. the decomposition is instantaneous, the nitro-cellulose inflames, and the camphor is vaporised." Your specimens therefore exhibit this sudden decomposition more than 100 degrees lower than properly manufactured celluloid.

I thought I would examine at the same time a celluloid hair-pin which I obtained from a member of my family. In appearance the celluloid was indistinguishable from your dark-coloured specimen, but it stood a constant temperature of 270° F. for 15 minutes without showing any change beyond slight swelling up and giving off a little camphor with a mere trace of nitrous fumes. There was no trace of the sudden decomposition which your specimens showed almost immediately under the same conditions.

Of coarse, even the lowest of the ignition temperatures which I observed with your specimens is far above what would prevail at a distance of six feet from an ordinary fire. But it is a matter of common observation with unstable and explosive substances that they occasionally explode, or ignite—as it were, by mere chance and when they are not wanted to—under conditions that, when one is experimenting with the substances, would appear to ensure perfect safety. In the case of substances like celluloid this is readily explicable, as they are mixtures of variable composition, and they give way at the weakest point. A badly manufactured piece communicates its instability to the whole.

Professor Japp was further good enough to write to Professor C. V. Boys on the subject of ignition of celluloid. The only additional point in Professor Boys's reply is contained in the following remark: "The curious thing about the celluloid button smoulder (it is under the usual circumstances smoulder rather than burn) is that with all the smoke and fluster and stink there is nothing that cannot be put out by blowing sharply upon the place so as to cool it. The instinct, on the other hand, to squelch it by squeezing it all up in the surrounding material, is just the one thing to make it go all the more, as it is then made warmer, and what is more important the hot gases have no free egress, so they envelop the button and a kind of unstable state is engendered which results in a kind of deflagration or slow explosion, burning possibly severely the enveloping hand."

As Professor Japp's scientifically exact laboratory experiments left it open to be supposed that the conditions under which what is sold as celluloid would ignite, might, under ordinary circumstances, when it is exposed to radiant heat and surrounded by substances of varying conductivity, harmonise with both his results and the accidents reported, I performed, with the help of Dr. Fortescue, the following experiments in the rooms of the surgery department.

Experiment 1. Heat in front of a bright fire.—A thermometer surrounded on all sides with air and placed two feet in front of a well-burning fire showing both flames above and red incandescence below, reached a maximum temperature of 120° F. By stirring the fire or otherwise increasing the blaze the temperature could be raised a good deal higher.

Experiment 2. Heat increases in the presence of an absorbing substance.—If placed in the same position as in Experiment 1, with a backing of brown American cloth in contact with it behind, the thermometer registered 152° F.

Experiment 3. Horse-hair further increases heat and affects celluloid.—If similarly placed and backed with black horse-hair cloth the thermometer marked 171° F. A piece of the celluloid comb which burnt Dr. Beddie's patient, placed in contact with the horse-hair, swelled and became white and spongy at this temperature.

Experiment 4. A steel pin further increases heat and ignites celluloid.—A portion of the same comb, placed under conditions similar to Experiment 1 against the steel of a hat-pin which Dr. Beddie's patient was wearing when her accident occurred, the steel likewise touching the thermometer, ignited and left a black ash at the moment the thermometer registered 200° F.

Experiment 5. Effect of wrapping celluloid in black hair.—The thermometer and a third portion of the comb were enveloped in a small lock of the hair (black) of Dr. Beddie's patient and exposed as in Experiment 1. The celluloid burnt when the thermometer marked 180° F.

Experiment 6. Variability of igniting point of celluloid.—On repeating Experiment 5 a fourth piece of the same celluloid comb ignited only at 220° F.

Experiment 7. Effect of wrapping celluloid in fair hair.—The thermometer and a fifth portion of the comb were enveloped in a lock of a child's (fair) hair. The celluloid burnt at 167° F.

Experiment 8. Control experiment to Experiment 7, with celluloid alone.—A control experiment under exactly the same conditions as Experiment 7 gave 170° F. as the burning point of a sixth fragment of the comb taken from the spot adjoining that used in Experiment 7, when exposed naked, without being enveloped in the hair.

Experiment 9. Control experiment with good celluloid.—A piece of properly manufactured celluloid, exposed under identical conditions with Experiment 8 in order to control it, only became softened at 170° F.

The thermometrical temperatures in these experiments have only a relative, not an absolute, value.

CONCLUSIONS.

1. It is evident that celluloid articles of uncertain composition and dangerously explosive quality are everywhere sold and are in constant use, and that the conditions under which they may ignite in varying circumstances cannot be fully inferred from experiments regarding their ignition point made in a physical laboratory.

2. Badly manufactured celluloid ignites at variable temperatures, too low for it to be safely used.

3. It also follows, I consider, that restrictions should be imposed upon the sale of all such articles which do not sustain, without ignition, a temperature equal to that sustained by well-manufactured celluloid.

4. It is worthy of consideration whether all celluloid articles of personal wear and such others as might give rise to fires ought not to be compelled to have the word "ignitible" conspicuously imprinted upon them.

5. If the suggestion of the writer in THE LANCET[1] to render celluloid incombustible by the addition of some chemical should be practicable it would be the best solution of the difficulty, and such an addition ought to be made compulsory by legislative enactment.

I owe my sincere thanks to Professor Japp for his advice and criticisms concerning his and my own experiments and to Professor Boys for permission to quote the sentences from his informal letter.

Aberdeen.

A CASE OF HYDATID DISEASE OF THE GALL-BLADDER.

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THE following case of hydatid disease of the gall-bladder having recently come under my notice I have been tempted to record it as an example of what is, I think, generally acknowledged to be a distinctly rare condition.

The patient was a married woman, 32 years of age, who was transferred to my care in the Hospital for Women, Soho-square, by my colleague, Dr. James Oliver, with the following history. Until 14 years of age she had been perfectly healthy, but at the age of 16 years she suffered somewhat from anæmia (she stated that she had "inflammation of

[1] THE LANCET, March 26th, 1892, p. 708.

the womb"), and shortly afterwards, after suffering some difficulty and pain during micturition, she passed certain bodies resembling "grapes with the stalks removed," which her medical attendant told her must have come from the uterus. Of these bodies she passed one more at the age of 17 years and one at the age of 19 years. No examination appears to have been made of these. She had never been abroad, nor had her employment in any way been such as to have suggested the probability of echinococcus ingestion. In April, 1898, she had a miscarriage and during the subsequent bandaging she noticed a mass in her abdomen which she showed to her medical attendant. It appears to have caused her no trouble until May, 1900, when she had a sudden attack of vomiting, accompanied by severe abdominal pain, and from this time the mass was tender on pressure and was accompanied by a feeling of nausea. She had no further vomiting, but in August the attacks of nausea became more frequent, lasting two or three days at a time. From this time the tumour began to increase in size and continued to grow, accompanied by increasing nausea and pain. These attacks bore no relation to her meals but appeared to be more usual towards evening. She had never suffered at any time from jaundice and her stools had always been normal in colour. She stated that she had lost weight considerably, but as no definite record was kept this was, I think, fallacious.

The case was seen by Dr. Oliver and myself in consultation on April 25th, 1901, when the following condition was found. Outwardly the abdomen was quite normal in appearance, no swelling being visible. On palpation the recti abdominis were felt to be separated by about an inch, and, lying slightly to the right of the middle line and about an inch above the umbilicus, was a hard, slightly lobulated, roundish mass which seemed to be rather flat than globular. It was freely moveable, especially laterally to the right, although it could

FIG. 1.

Front view. A, Hydatid membrane. B, Daughter cysts.

be brought beyond the middle line to the left. In consistence it was hard, but not to a very marked degree; elasticity could not definitely be made out. On percussion it was dull and there was impaired resonance between it and the liver which was not enlarged. On pressing the tumour the patient complained of nausea, and on increasing the pressure of some pain in the epigastrium. As far as could be judged the tumour measured about three inches each way and was not apparently connected with the liver. In the absence of jaundice, colic, and clay-coloured stools, and from the very free mobility of the tumour, a diagnosis of carcinoma of the omentum was made, and I advised an exploratory laparotomy which was undertaken on May 2nd.

FIG. 2.

Back view. A, Hydatid membrane. B, Obliterated cystic duct.

On opening the abdomen in the linea alba I found a large whitish mass, measuring about three inches by five, having several flat prominences on its surface, of rather hard consistence suggesting nodules of growth, in the situation of the gall-bladder. To this mass the great omentum was adherent in front, the edge of the liver was spread out over it above, and the transverse colon was in a similar condition below. The tumour was found to be the gall-bladder itself, and the position of it, so near the middle line, was accounted for by the fact that the liver was much more moveable than is usual, although the other viscera showed no marked degree of enteroptosis. Under the impression that I had to deal with a primary carcinoma of the gall-bladder I freed the organ without much difficulty, ligatured and divided the cystic duct (the lumen of which was then seen to be completely obliterated), and removed the gall-bladder. On opening it no fluid exuded, but it was found to be lined by a thick blanket of hydatid membrane unstained by bile pigment and which peeled away with extreme ease, the cavity of the cyst being occupied by numerous daughter cysts and gelatinous semi-translucent material. I then examined the other viscera for indication of more cysts, but I was unable to find any tumour or enlargement which might point to such, and, although time may prove to the contrary, I am strongly of opinion that in this case the gall-bladder alone was affected.

The rarity of hydatid disease affecting the gall-bladder, either solely or in conjunction with other organs, may be judged of from the small number of cases at present recorded. I have been unable to find more than three cases recorded in the last 20 years. The first is that mentioned by Dr. Bowman,[1] in which the patient died during aspiration of a hydatid cyst of the lung. The gall-bladder was found post mortem to be distended by a single cyst of the size of a fœtal head containing one daughter cyst. There had been no signs of jaundice nor was pain at any time present. In

[1] THE LANCET, April 8th, 1876, p. 532.

the second case, reported by Mr. J. Knowsley Thornton,[2] the symptoms of acute biliary colic were present; they recurred once and were then followed by jaundice and choluria. Here the gall-bladder contained a number of hydatids and much bile-stained fluid, the cystic duct being patent, and one other cyst was removed from the omentum. The third case is reported by Mr. Frederick Page,[3] the symptoms being chiefly vomiting and epigastric pain. A tumour was felt and on aspiration yielded perfectly colourless fluid. Cholecystotomy was performed and the organ was found to contain a single cyst without daughter cysts, the cystic duct being patent. Mr. A. W. Mayo Robson[4] mentions a case of hydatid disease simulating gall-stone attacks in which hydatids appear to have been discharged from the liver into the bile-ducts, infective cholangitis being the result. But here the disease appears to have originated in the liver. The same author draws attention to certain cases, all of which appear either to have originated in the liver or to have been complicated by communications between the liver and gall-bladder, leaving the original site of the disease in doubt.

With regard to the diagnosis of hydatid disease of the gall-bladder I am unaware of any case having as yet been diagnosed before operation. The difficulties in the way of making such a diagnosis are obvious and beyond the recognition of a tumour as being the gall-bladder in a state of distension (presuming always that no other swellings exist), I doubt if a definite diagnosis is possible. As to the treatment of such cases it must necessarily be considered from the special aspect of each individual case. In my own case cholecystectomy would have been clearly indicated (the cystic duct being no longer patent and the mucous membrane completely destroyed by pressure) even had the case not been considered one of malignant disease. The patient, I may say, has made an uneventful recovery. The specimen has been deposited in the Hunterian Museum, where it is at present the only one of its kind.

Montagu-street, W.

TETANUS FOLLOWING REVACCINATION ON THE LEG;

RECOVERY AFTER PROLONGED ADMINISTRATION OF CHLORAL HYDRATE.[1]

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AND
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THE patient, a female, aged 21 years, was revaccinated on March 8th, 1901. As she desired very particularly to use her arms in a fortnight's time she asked that the inoculation should be done on the leg. Accordingly a mark, a little over half a square inch in size, was made on the outer side of the right leg, about midway between the knee and the ankle. Calf lymph, as supplied by the Health Office of the City of Glasgow, was used, and more than the usual precautions were taken to prevent septic infection. The middle third of the leg was cleaned with turpentine and then with methylated spirits, after which the part was again rubbed over with a carbolic solution (1 in 40). The lancet used was always kept in a glass of carbolic solution. A large adhesive thick felt or bunion plaster was then applied around the vaccination mark and was kept in position by a strip of adhesive plaster, the object being to prevent any contact of stocking or clothes with the wound on the way from the surgery to her home until it was quite dry. The vaccination "took," constitutional and local symptoms were quite insignificant, and the patient was able throughout to do serious mental work and to go about as though nothing had happened.

On the 18th (10 days after inoculation of the vaccine) she attended a concert in a hall which is notorious for its draughts and she occupied a seat in a specially draughty place. While listening to the music she complained to her friends of the discomfort she was experiencing from the draught. On the 20th (12 days after inoculation) she first complained of pain in her back, felt out of sorts, and could not settle to work. On the 21st she remained in bed and was first seen by one of us. Her temperature was normal; the pulse was 80, small, of somewhat high tension, and regular, and over and above the pain in the back there was complaint of stiffness of the neck and the jaws. There was no sore-throat and no abnormality of the thoracic or abdominal organs was detected. Through some misapprehension the adhesive plaster had never been removed from the leg, and when crust and plaster were pulled off the vaccination mark did not look particularly healthy; it was covered by a greyish-coloured slough and there was a slight discharge of thin dirty yellow pus. There was, however, no surrounding inflammation of the skin and no enlargement or tenderness of the popliteal or femoral glands. A bread poultice was ordered and this at once converted the foul sore into a healthy, healing wound, which was afterwards dressed daily with moist boric lint. (We may as well state here and be done with it that in three weeks' time from the inoculation the vaccination sore was healed.) Under the impression that she was possibly suffering from a rheumatic affection of the muscles about the neck salicylate of soda (15 grains), four times daily, was prescribed.

On the morning of the 22nd her condition was much the same as on the previous night. As the day wore on, however, the jaws got stiffer and gradually closed till by the evening she could only open her mouth to about half its usual extent. There was no rigidity or spasm of the masseters or depressors of the jaw to be detected, and with a little trouble we could still assure ourselves that there was no sore-throat. There was no difficulty in swallowing. The head was very distinctly retracted, and though the patient could raise it off the pillow and make the chin touch the sternum, she complained much of stiffness and slightly of pain in the back of the neck. The muscles of the back of the neck, however, did not feel specially rigid. Slight tenseness of the muscles of the abdomen was felt, but there were no spasms of these muscles and no pain was complained of in them. No hysterical stigmata were present. The temperature was normal and the pulse was slow (68) and regular. On the morning of the 23rd the patient seemed much better, though she had not slept much during the night. She could open the jaws well and was quite happy about herself. As the bowels had not moved since the 20th, though cascara sagrada had been given on the 22nd, the same drug, in tabloid form, was again ordered, to be followed by an enema. In the evening the jaws could be less widely opened. Pain and, for the first time, twitching of the muscles of the abdomen in the region of the right groin were complained of, and also some stiffness in the right leg. The left knee-jerk was active, and on the right side it was markedly exaggerated, showing a tendency to clonus. There was no disturbance of sensation. The salicylate of soda was ordered to be stopped and chloral hydrate, in 20-grain doses, to be given every two or three hours till the spasm was relieved and sleep was induced.

On the 24th it was ascertained that in spite of the administration of 60 grains of chloral hydrate the patient had had very little sleep during the night. In the morning the jaws could be opened sufficiently to give exit to the protruded tongue, but no more. The abdomen felt hard and board-like from constant tonic contraction of the muscles, and every now and then spasms or paroxysmal contractions occurred. The spasmodic contraction of the abdominal muscles was more marked over the right iliac fossa and caused considerable pain, which made her cry out. The spasm in the neck muscles was not constant, but was absent for short periods, and it varied in intensity from time to time. She could move the head backwards and forwards and from side to side within a limited range, but movement was carried out slowly with both pain and difficulty. There was some trouble in passing urine, but no actual retention. No chloral was given in the morning, and by the afternoon it was noticed that the patient had a fixed expression about the face, as if she had suddenly become aged. The eyes had a peeping look with small palpebral fissure, and could not be fully opened owing to the contraction of the orbiculares palpebrarum. The naso-labial and mouth angle folds were deeper than was normal, and the orbicularis oris and buccinators seemed and

[2] THE LANCET, April 4th, 1891, p. 763.
[3] THE LANCET, April 9th, 1898, p. 995.
[4] Diseases of the Gall-bladder and Bile-ducts, pp. 42, 43.
[1] A paper read at a meeting of the Glasgow Eastern Medical Society, held on Feb. 5th, 1902.

felt tense. The abdominal muscles were still hard and board-like and paroxysmal spasms were occurring in the right iliac fossa. There were pain and stiffness in the back, and at times we thought that we could make out slight arching of the same. The head was distinctly retracted, and only with great difficulty and some pain could the chin be made to come near, but not to touch, the sternum. The extensor muscles of the neck were very hard and tense and, for the first time since the illness began, the masseter muscles were felt to stand out as stout bands. The legs were kept fully extended, and the feet were so strongly flexed as almost to continue the straight line of the legs. By gentle movement, however, after some little time this tonic spasm of the calf muscles could be overcome, and the feet could be brought forward almost to a right angle with the legs, but they would come no further. The patient distinctly objected to have her knee and hip-joints flexed and she could not sit up in bed. She had had 20 grains of chloral hydrate twice during the early part of the afternoon.

Up to this point, though tetanus had never been absent from our minds, it had seemed to us that all the symptoms could be explained by a diagnosis of hysteria; and the varying degree of the muscular rigidity—the malady appearing at one time to be progressing and at another to be receding—and the fact that such rigidity by gentle manipulation could to a great extent be overcome, coupled with the distinctly neurotic character of the patient, in spite of the absence of definite hysterical stigmata, seemed to lead in this direction. But now we could no longer avoid making the diagnosis of tetanus, cerebro-spinal meningitis being excluded by the absence of fever, headache, vomiting, &c. In the evening Professor T. K. Monro saw the case in consultation and agreed with us that the malady was tetanus. It was arranged to give a further dose of purgative medicine (half an ounce of castor oil) thoroughly to clear the bowel and to continue the chloral hydrate in somewhat larger doses—from 20 to 30 grains every four hours. In view of the gravity of the disease, however, it was decided to obtain a surgical opinion to consult as to the advisability of operative interference. Professor Monro made an ophthalmoscopic examination and found the fundi normal. Professor Sir Hector Cameron saw the case on the evening of the 25th, when the state of the patient was somewhat better than it had been on the previous day owing to two and a half drachms of chloral having been given during the last 24 hours. Still, all the facts which we have mentioned were present. Sir Hector Cameron agreed with the diagnosis of tetanus, but did not think that it was either necessary or desirable to excise the vaccination wound or yet to give tetanus antitoxin. He advised that the chloral be continued and even pushed, and, drawing from his great store of clinical experience, confidently asserted that the patient would ultimately get well.

From the 25th to the 28th the patient had had 240 grains of chloral during the 24 hours and by the 27th 180 grains more had been given. She was under the influence of the drug and was very silly and stupid—like a half-drunken person. The eyes, however, were more widely opened, there was an absence of the ominous lines about the nose and mouth, and the slight sardonic grin was no longer perceptible. She could nod her head. There was no spasm in the abdominal muscles, and the legs, in place of being extended as formerly, were now drawn up in bed. The only drawback to her splendid feeling of *bien-être* was that retention of urine had occurred. A catheter was passed at night. The improvement still continued and on the 29th the mouth could be more widely opened. During the last 48 hours 120 grains of chloral had been sufficient to allay any tendency to spasm. The catheter was passed twice during this and the preceding day. The temperature, which had previously always been normal, was 99·0° F. in the morning and 99·6° at night. On the 30th she passed urine herself, but the calls to do so became very frequent, and there was stinging pain at the end of each act of micturition. The urine was faintly alkaline and contained a slight sediment of pus. The temperature was 99·8° in the morning and 100·6° at night.

From this point onward to the end of April there was slight fever of an intermittent character, the temperature being off and on about normal in the morning and never higher than 101° at night. The abnormal temperature coincided with the appearance of the cystitis, which persisted—as shown by pus in the urine—well on till the end of July. The bladder inflammation, due, no doubt, to the catheterisation, was treated all along with salol and urotropine, but chiefly the latter, which, on the whole, acted most beneficially. The chloral, in 15-grain doses, was continued at about the rate of five grains every hour, the patient calling for it as she was in dread of the spasms returning with their old force. During the next three days advantage was taken of this improvement to wean her from the chloral and to substitute bromide of potassium, but the spasms in the abdomen and the legs returned necessitating a re-administration of the drug. From April 6th to the 22nd the spasms were kept under by the continued administration of the chloral day and night. So long as the patient was under the influence of the drug the spasms in the legs, the abdomen, and the back were fairly quiet and the rigidity of the muscles of the face and neck was well relaxed. Though dosed with the drug she lay in constant terror of the bed or herself being suddenly touched or jerked lest the old twitchings should come back. If anyone incautiously entered the room or walked roughly across the floor the spasms occurred. During this period she took plenty of nourishment of an entirely "sloppy" character as she was unable to chew owing to the rigidity of the jaws. By this date (April 22nd) she had consumed in all seven ounces three drachms and 10 grains of chloral. During the next fortnight the chloral was gradually lessened—exactly an ounce was given—until it was stopped altogether, and bromide of potassium in 15-grain doses four times daily was again substituted for a week, after which she was put on iron. Thus during her entire illness she took a little over eight ounces of chloral, or, to be particular, exactly eight ounces and three drachms, plus 10 grains, and never at any time was there the least sign of cardiac failure.

Towards the end of the first week in May, a day or two after the chloral was withheld, the nurse began to encourage the patient to sit up in bed, and later to get out of bed, but it was slow work, as the spasms threatened to return on the least exertion, and her extremely weak and nervous condition seemed, through terror, to anticipate, if not actually to make, them. The knees and hips remained extended and for some time she could not sit down in a chair properly, but had to be propped up like a stiffened lay figure; and later, when she tried to walk, even though supported on each side, she could not lift or flex her limbs. In the legs the spasm was last to leave the flexors of the ankles; she could not set her feet down flat on the ground and walked for a period on her toes. Perhaps fear of the spasms returning had something to do with her extreme helplessness and slow recovery. By perseverance, however, she gradually gained confidence and power, and towards the end of the month was walking with the assistance of the nurse's arm and a stick, though still holding her neck and back very stiffly. The trismus also remained to a slight extent and was the last of the rigidities to disappear. Solid food could now be taken in place of the finely-chopped meats required in the earlier part of the month. She was also regaining her natural sleep at night which was uncertain after the loss of the chloral. Early in June she went to the coast, where she was golfing by the end of the month and, needless to say, free from all tetanic symptoms. It should have been mentioned that the muscles of the arms were never at any time affected and constipation was a marked feature throughout the entire illness.

CONSIDERATIONS AND CONCLUSIONS.

In spite of the fact that we have no bacteriological evidence to offer, it cannot be doubted that the above was a true, though by no means a classical, case of tetanus. Further, as already mentioned, the patient was seen by Professor Sir Hector C. Cameron and Professor T. K. Monro, and both concurred in this diagnosis. That we were not dealing with a simple rheumatism occasioned by the draught in which the patient sat two days before symptoms showed themselves was made evident by the stiffness of the neck being quickly followed by rigidity in the muscles of the jaw, and this at once aroused our suspicions. These suspicions, however, we must confess, were somewhat too easily allayed by thinking that we had to deal with an extremely rare manifestation—tetanoid spasm, of that perennial pitfall and simulator of disease termed "hysteria." The trismus, however, was not sudden in onset and never became absolute, as happens in hysteria; still the variation in the amount of the trismus seemed to point to functional rather than to organic disease. Due prominence was not at first

given to the fact, as set down by Gowers, that "there is an absence of rigidity in the neck in hysteria,"[2] and Gowers's most sound and excellent advice, "that the symptoms of tetanus coming on after an injury or exposure to cold must not be treated lightly because they occur in a hysterical person or follow fear of the disease,"[3] was not at first sufficiently acted on. Though not hysterical our patient was distinctly neurotic and both knew about and had an awful fear of "lockjaw."

We were loth, too, as is not surprising, to admit that the inoculation for vaccinia had at the same time sown the seeds of tetanus. Neither of us had ever heard of such a thing, yet we have been able to find references to 10 cases, where tetanus has occured after vaccination. Six, and perhaps seven, of these[4] are reported from America and two from the West Indies,[5] where tetanus itself is very common, but, unfortunately, we have not access to any of the journals containing the records of them. We learn, however, from the title of one paper that the patient was cured by large doses of opium; and from epitomes in THE LANCET and the *British Medical Journal* we get a very fair idea of the course of events in two fatal cases. A single and fatal instance of this accident is reported in Great Britain.[6]

In a case related by Toms[7] "tetanus occurred 24 days after vaccination in a weakly girl, aged five and a half years. Bovine virus was used with all possible antiseptic precautions. On the eighteenth day the child was ill, the temperature was 100·5° F., and the ulcer at the site of the vaccination was deep, slightly indurated, and discharging a sanious pus. These appearances improved under treatment and six days later the child had an aphthous stomatitis, and now for the first time, while the mouth was being examined, some trismus was noted. The muscular rigidity spread, opisthotonos developed, and the child died from œdema of the lungs 35 days after the vaccination. At the time of death the ulcer on the arm appeared to be healthy. Against the theory that the tetanus was due to vaccination are (1) the presence of the sore mouth; (2) the length of the incubation period if counted from the vaccination; and, most important, (3) the inability to cultivate the tetanus bacillus from the wound of the arm. The possible sources of infection of the arm were (1) the vaseline, (2) the sponge, and (3) the unsterilised dressings used by the patient's friends," but all these may perhaps be ignored in view of the bacteriologist's finding that the arm was not infected with tetanus bacilli, though it must be confessed that this finding loses much of its weight when we consider how very, very difficult it is to cultivate tetanus bacilli from wounds. The interval between the vaccination and the onset of trismus is somewhat over the average, but by no means too long for the incubation period of tetanus.

In another case investigated by the Royal Commission on Vaccination,[8] and published in their reports, "a female child, aged two months, developed trismus on the twenty-third day after vaccination. The child's arm did well up to the ninth day, when it became inflamed. Suppuration but no erysipelas set in on the fourteenth day. The child died with opisthotonos and interference with respiration on the twenty-sixth day. The reporter acquits the lymph used and the operation of being the cause of tetanus which is most unusual after vaccination. This child was vaccinated from the arm of a female infant, aged five months, and at the same time and with the same 'lymph' six other children were vaccinated, and none of them developed tetanus or sore arms. But tetanus may follow very slight injuries, and it is regarded as noteworthy that 28 days after the death of the above child another infant, aged 10 days, at a house half a mile off, died from tetanus supervening on an unhealed umbilicus."

In yet another case[9] "the patient was a healthy man, aged 40. Some days after the operation, which was performed about the middle of January last, he exposed himself to severe cold, and the arm became much swollen and the integument around the scab inflamed. No other lesion could be detected anywhere in the body. On Feb. 7th he noticed a little stiffness of the jaw and there was slight opisthotonos, accompanied on the following day by profuse perspirations and muscular spasms of the lower extremities. These symptoms increased in severity till the 13th, on the evening of which day death took place, the pulse at noon having been 120, the respiration 44, and the temperature 102·0°. Treatment throughout was by chloral hydrate and kalium bromide. Constipation was persistent during the entire illness. Dr. Berkeley acquits the virus of any share in producing the tetanus."

In our patient the first tetanic symptoms appeared exactly 12 days after the vaccination and two days after exposure to a draught. "The interval between the infliction of the wound and the appearance of the first symptoms of tetanus is usually from five to 14 days."[10] "Idiopathic tetanus usually follows exposure to cold, and when due to a single exposure, so that the interval could be ascertained, it has rarely exceeded two days and has frequently been only a few hours. In many cases classed as traumatic tetanus there has been an exposure to cold after the receipt of the wound."[11] Now, considered from the point of view of length of incubation period we would be at a loss whether to ascribe the tetanic infection to the exposure to cold on the one hand or to the vaccination on the other, for both satisfy this criterion, were it not for the now generally accepted idea that all cases of tetanus are traumatic, and the further dictum of Gowers that "cases in which tetanus is apparently excited by cold in a person who has had a trifling injury, perhaps some time before, must be included for scientific purposes in the traumatic variety."[12] "The influence of cold has been thought to aid the occurrence of puerperal and neonatal tetanus,"[13] but on the whole it seems more in accordance with modern thought to regard "the exposure to cold as somehow or other predisposing the nervous system to suffer from a minute dose of the tetanic poison."[14] That there could not have been a large dose introduced in our case is amply proved by the mildness of the symptoms, and we must conclude that the extra irritation involved in the exposure to cold simply played the part of firing the mine already laid, just as Verneuil has noted that surgical interference with a wound may apparently excite tetanus. And as bearing out the same idea is the case recorded by Terrier. "An injured toe had become gangrenous and was amputated. Trismus, absent before, was present a quarter of an hour afterwards, and the patient averred that the pain of the operation distinctly made his jaw muscles contract while the amputation was being performed."[15] In Berkeley's case there was also exposure to severe cold in the interval between the vaccination and the development of tetanic symptoms.

The incubation period in our case was shorter—by 12 days in one and by 11 in the other—than in two of the cases mentioned above, and there was no abrasion, ulceration, or injury of cutaneous or mucous surfaces to interfere with our calculations, as in the case reported by Toms. In all these reported cases, however, the duration of incubation if counted from the time of the vaccination is well within the limits—viz., a month—as set down by Gowers.[16]

Now, granted that the poison of tetanus was introduced by the process of vaccination, we have the further question to answer—Whence came the poison? We do not see how the lymph can be blamed, for, though drawn from an agricultural source, the calf, which at once suggests manure and dung heaps, several people were inoculated from the same tube, and this one patient alone developed tetanus. Further, the probability is that had the lymph been the infective agent the whole output of a certain date would

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[2] W. R. Gowers: A Manual of Diseases of the Nervous System 1893, vol. ii., p. 692.

[3] Ibid.

[4] W. T. C. Bates: Traumatic Tetanus from Vaccination, Transactions of the South Carolina Medical Association, Charleston, 1882, vol. xxxii., p. 105. H. J. Berkeley: A Case of Tetanus following Vaccination, Maryland Medical Journal, Baltimore, 1882-83, vol. ix., pp. 241-245; THE LANCET, Nov. 4th, 1882, p. 792. J. B. Cottman: A Case of Tetanus Produced from Vaccination, Cured by Large Doses of Opium, New Orleans Medical and Surgical Journal, 1854-55, vol. xi., p. 783. T. Dimon: Tetanus following Vaccination; Importance of Reliable Virus, St. Louis Cour. Med., 1882, vol. vii., pp. 310-312. G. Ross: Tetanus following Vaccination, South Clinic, Richmond, 1878-79, vol. i., p. 466; also Virginia Medical Monthly, Richmond, 1879-80, vol. vi., p. 700. S. Toms: Tetanus Complicating Vaccinia, Medical News, Philadelphia, Feb. 24th, 1894; also Brit. Med. Jour., in Epitome of Current Medical Literature, April 28th, 1894, p. 66. Oxford, quoted by Toms (date and place of communication not known).

[5] Garcia Rijo Rudesindo: Tetano Consecutivo á la Vacuna, Crón. Med.-quir. de la Habana, 1886, vol. xii., p. 388. J. Rinz: Infección Tetánica durante la Evolución Vacunal, same journal, 1891, vol. xvii., p. 649.

[6] Papers relating to Cases in which Death or Non-fatal Injury was alleged or suggested to have been caused by, or otherwise connected with, Vaccination. Appendix IX. to the Final Report of the Royal Commission on Vaccination, 1897, Case X., p. 6. Also THE LANCET, Nov. 2nd, 1889, pp. 922 and 970.

[7] Toms, loc. cit.

[8] Appendix IX., referred to in Note 5.

[9] Berkeley, loc. cit.; THE LANCET, Nov. 4th, 1882, p. 792.

[10] Gowers, loc. cit., p. 677.

[11] Ibid., p. 678. [12] Ibid., p. 692. [13] Ibid., p. 678. [14] Ibid., [15] Ibid., p. 690. [16] Ibid., p. 678.

have been contaminated, and a regular epidemic would have resulted, such as occurred in Italy and more recently in the City of St. Louis as the result of using diphtheria antitoxin.[17] It is important, too, in this connexion, to note that in the case examined by the Royal Commission on Vaccination, human lymph was used, and only one child out of the seven vaccinated from the same source and in the same manner developed tetanus. No more can we blame the lancet or the hands of the operator, for at that particular time (in the spring of 1901) medical men were doing little else but revaccinating, and yet out of the large number vaccinated on that particular day only this one patient developed tetanus.

We must conclude, then, that the source of the infection was in the patient's own skin, and it is to be remembered that the site of the inoculation was the leg, though in the three other cases referred to the arm was chosen. According to Thamhayn the order of frequency with which the several parts have been the seat of the wound that caused tetanus is (1) the hand, (2) the leg, (3) the foot, (4) the head and neck, and (5) the arm and trunk.[18] Of the many patients whom we vaccinated in this case alone did we do so on the leg, though we have seen it stated with authority that such is commonly practised on the infants of Canada, is the custom in Spain, and is unattended by danger.[19] But babies differ very materially from adults, and it is superfluous to point out how much nearer in the latter the leg than the arm, say, is to the great source of infection, viz., the earth. Moreover, it is important in this relation to remark that our patient conformed to the prevalent custom of wearing a long dress, and it seems hard to understand how skirts trailing along our city streets can fail to sweep up material, composed of finely pulveri-ed earth, horse-dung, &c., and most likely containing tetanus bacilli and spores. The constant to-and-fro flap-flapping of the dress must cause the stockings very quickly to become seriously soiled with infective material, and in the case of women where wide-meshed stockings alone afford covering for the nether limbs below the knee there is no difficulty in following the infective agent through the stockings on to the legs themselves. It seems to us that, let a woman be ever so cleanly in her habits, perform ablutions as often as she likes, and change her garments as frequently as she pleases, she has only to walk a few yards—if she trails her dress—to furnish the bacteriologist with more than food for reflection.

The antiseptic measures employed, though considerable, were of course quite inadequate to destroy any spores of the tetanus bacillus lodged about the glands or the pits of the skin; indeed, a few incantations would have been as effective. The very fact, too, that the operation of vaccination is designed to implant and retain the vaccine virus by means of numerous and almost bloodless punctures, proddings, and rubbings ensures that any other foreign matter present will be well introduced, and offers special facilities for growth to the bacilli and spores of tetanus. Tetanus is specially common after punctured and contused wounds, and what is the vaccination wound but a congeries of minute punctures and contusions? A surgical operation could most likely have been carried out on this leg with impunity without any additional antiseptic precautions, for the clean incision of the surgeon's knife militates against the very conditions which the vaccinator's lancet fosters. We regret now that we covered up the vaccination mark at the beginning and are more than sorry that through a misapprehension our patient converted the meant-to-be-temporary protection into a permanent covering, for the somewhat impervious dressing may have helped to produce those anaerobic conditions so necessary for the development of the tetanus bacillus. Moreover, this sealing-up of the wound has the disadvantage that it quite puts out of court any possibility of infection of the wound subsequently to the vaccination. Further, it is important to note that in the three fatal cases which we have quoted all the patients had very sore arms, two of the arms being described as suppurating. In our own case, also, the vaccination mark, though not surrounded by induration and inflammation and though not associated with enlargement of glands, did not look particularly healthy, still that there was nothing much amiss was amply proved by the absence of abnormal temperature, and the fact of a single poultice at once converting it into a healthy healing wound. "Kitasato now holds that in the natural infection in man, along with tetanus spores, the presence of foreign material or of other bacteria is necessary. Spores alone or tetanus bacilli without spores die in the tissues, and tetanus does not result."[20] Thus we see how "bad arms" may help in the development of tetanus; nevertheless, it is perhaps not entirely a question of the successful or non-successful use of antiseptics, and it is quite in harmony with Kitasato's teaching to believe that the vaccine virus itself and the consequences which it produces are quite capable of injuring the tissues to such a degree that the tetanus spores or bacilli may become pathogenic without the presence of any streptococci or staphylococci to aid and abet them.

This case was treated throughout by chloral hydrate, eight ounces three drachms and 10 grains being administered over a period of 44 days. No mild or heroic surgical measures were carried out and no antitoxin, as already mentioned, was employed. Had the tetanus antitoxin been used this case might have gone to swell the badly needed good results after such treatment. Encouraged by the confident prognosis of Professor Sir Hector Cameron, which was endorsed by Professor Monro, we waited (till not only our own patience but that of the patient's friends also was well-nigh exhausted) for the elaboration of a natural antitoxin by the patient's own tissues. That this consummation took a very long time we must confess, and it is possible that a resort to the use of animal antitoxin might have considerably expedited matters, though the ultimate result left nothing to be desired.

It may be asked what good end can possibly be served by reporting a case of this sort, so we hasten to make answer that we feel that it is only our duty to our medical brethren to do so; and if the perusal of this communication impresses the reader as we have been impressed, more especially since we began to study the literature of vaccination, with the great necessity for the employment of adequate antiseptic precautions when performing this most trivial of operations, the great cause of vaccination will be considerably helped thereby. It is more than doubtful whether many of us use an antiseptic otherwise than as a fetich. What are adequate antiseptic precautions? Can the skin be rendered aseptic or safe by scrubbing for a few minutes with disinfectants? Most surgeons, we believe, would give a very decided negative to the latter question and yet vaccination is riskier in some ways than a clean cutting operation. We are disappointed on reading over the third schedule of the Vaccination Order of Oct. 18th, 1898, issued by the Local Government Board, England, to find that though considerable space is devoted to the sterilisation of instruments, and the care and use of lymph, there is nothing more definite as regards the preparation of the skin than, "Vaccination should at every stage be carried out with aseptic precautions, and these should include: First, the cleansing of the surface of the skin before vaccination."[21] The neglect of the skin and idolatry of sterilised instruments are reflected likewise in the advertisement columns of the medical journals where instrument-makers are seen to vie with one another as to who shall produce the daintiest and most easily sterilisable outfit.

The accident in our case, fortunately so very rare, could hardly, we think, have been foreseen, and possibly could only have been prevented by adopting the same elaborate measures (extending over days) to render the skin aseptic which the surgeon employs before performing a major operation.

ADDENDUM.

Since the above conclusions were formed and set down it has come to our notice that some cases of tetanus (number not stated) have occurred after vaccination in Camden, New Jersey, and we also learn that a committee has inquired into and reported on the matter.[22] We have tried to apply the findings of this committee of experts to our own case, and though we recognise that any opinion coming with such high authority cannot be treated lightly we see no reason to amend our conclusions in the slightest. "In every case acute tetanus occurred in from three to four weeks after vaccination, whereas if the virus had been contaminated tetanus would have ensued within nine days after vaccination. A further proof of the purity of the virus is afforded by the negative results obtained from inoculation experiments on

[17] Tetanus and Diphtheria Antitoxin, Brit. Med. Jour., Jan. 11th, 1902, p. 104.

[18] Gowers, loc. cit., p. 677.

[19] Vaccination on Leg, Brit. Med. Jour., 1893, vol. i., p. 679.

[20] Muir and Ritchie: Manual of Bacteriology, 1899, p. 389.

[21] Brit. Med. Jour., Jan. 25th, 1902, p. 245.

[22] Brit. Med. Jour., Feb. 1st, 1902, p. 285; St. Paul Medical Journal, January, 1902.

animals with samples of the different lymphs used." We do not know what authority the committee has for saying that if the virus had been contaminated tetanus would have ensued within nine days after vaccination. The authorities whom we have consulted do not give such a limited incubation period for tetanus. We believe that the lymph used by us was as free from tetanic infection as was that employed by the Camdenites, but our faith in our explanation by skin infection at the time of the vaccination remains unshaken. "In every instance it was found that vaccination had been performed in a correct and cleanly manner." But this has been said about all the cases of tetanus supervening on vaccination that we have read of and might be also truthfully said about our own case. "The committee thinks that the tetanus cases in Camden are to be explained by atmospheric and telluric conditions. There had been a long period of dry weather, with high winds, so that tetanus germs, which have their normal habitat in the earth, dust, dirt of stables, &c., were constantly distributed in the atmosphere. One case of tetanus occurred from gunshot wound during the same period in a boy who had not been vaccinated—a fact which the committee regard as proving that the tetanus germs were in the atmosphere." Now, in all seriousness we would ask, Is it sound reasoning to conclude that because one of the many injured and wounded persons developed tetanus during the same period that several cases of tetanus were occurring after vaccination, that the tetanus germs must have been in the air? Of course, the tetanus germs were in the air—they are always there more or less; but is not the logical conclusion to be derived from these facts what we have already stated—viz., that the vaccination wound offers special facilities for growth to the tetanus bacillus? If atmospheric and telluric conditions alone were to blame vaccination would not have claimed cases while injuries claimed but one case. "In all the cases it was found on careful examination that the wound had been exposed by the scab being knocked off or removed or the arm had been injured and infection resulted; frequently children scratched the vaccinated area with their dirty fingers and nails and thus infected the wound. It is given as the unanimous opinion of the Board of Health, as well as of its committee of experts, that tetanus or any other infection can never occur if the vaccination is properly protected from contact with the atmosphere or with soiled clothing, bandages, &c." In our case, as already mentioned, the scab was not removed till the symptoms of tetanus developed, and even had our patient been in possession of dirty fingers and nails she could not have scratched the wound on account of the covering that was over it. Proper protection after vaccination is not everything, and in all humility we would direct the attention of the Camden Health Board to the skin of its patients as the not improbable source of the infection.

NOTES OF 15 CASES OF OPERATION FOR INTERNAL DERANGEMENT OF THE KNEE-JOINT.

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JUDGING from the views expressed in various text-books and recent papers on the above condition there still seems to be a considerable diversity of opinion with regard to many points in the etiology, pathology, and treatment of so-called dislocation of the semilunar cartilage. It may not be inopportune, therefore, to add the experience gathered from 15 cases of operation for this injury, as well as impressions formed from the observation of a large number of cases in which operation was not considered necessary.

The few points which I propose to discuss naturally fall under the following heads: (1) etiology; (2) pathology; (3) symptoms and diagnosis; and (4) treatment.

ETIOLOGY.

Most writers are fairly agreed on this point. The accident usually happens when the knee is partly flexed by a sudden external twist of the tibia on the femur, or, perhaps, more strictly speaking, an internal twist of the femur on the tibia. Such a thing may happen when a person steps out of a moving conveyance at too great an angle to the line of its movement, when he rises suddenly from the kneeling position, or in the course of football or similar games. I have known the internal cartilage to be displaced in three cases by a boy falling on the outer aspect of the patient's extended leg in a "maul" at football, and another case was caused by a vigorous kick at football missing the ball. I have not met with a case where a direct blow applied to the cartilage was the cause of its displacement, but I have known an accident of this kind to account for the separation of a chip of the bone (the tibia) with articular cartilage attached, this condition being found on opening the joint. As the cartilage recedes considerably into the joint on flexion and is so well protected by the adjacent margins of the tibia and femur in extension this cause for dislocation must be very rare, though it is said to occur. There can be no doubt that, as Mr. Annandale noted some time ago, miners and others who habitually kneel at their work are particularly prone to "derangement" of the knee. I have seen several cases in such people. Chronic synovitis is also recognised as a predisposing cause. It is a matter of common experience in cases where the cartilage has been previously dislocated and where satisfactory new adhesions have not formed, that the least twist of the knee, a slight tap on the inner side of the foot, and similar trivial causes will readily reproduce the displacement.

PATHOLOGY.

With regard to the relative frequency with which the internal or external cartilage is affected, most writers are now agreed that the former is very much more commonly at fault than the latter. I do not know whether Mr. R. J. Godlee still adheres to the contrary opinion, but this view—an incorrect one, as I venture to believe—is still held by some authorities, and appears, for instance, in the last edition of Da Costa's "Modern Surgery." My own experience coincides with that of Mr. Annandale, Mr. A. E. J. Barker, and others. Out of the 15 cases operated upon only one has been external, and I have only seen two other "external" cases in some 50 cases observed but not operated upon. In every one of the 15 operation cases the displacement of the cartilage (or of part of it) was inwards towards the centre of the joint, and while now and then one sees a case of external or marginal displacement I believe the condition to be quite exceptional.

Cases have frequently been noted in which there was tearing of the cartilage. Mr. Barker,[1] in an interesting paper, describes various kinds of longitudinal splitting which may take place. The accompanying illustration (Fig. 1) is an excellent example of what he terms "central splitting," the cartilage being split from end to end, the separated strip of the meniscus having found its way into the middle of the joint and lying against the crucial ligament.

Separation of the anterior attachment of the cartilage to the tibia is of common occurrence. I have met with it in several cases. Mr. Barker states that in none of his cases was the cartilage torn across at any point between its two ends. Strangely enough I have met with this condition in almost half of my operations, and so common a circumstance does it thus appear to me to be that I think that the term "dislocation of the semilunar cartilage" is very often an incorrect one, and prefer Hey's old name of "internal derangement of the knee-joint," which, if somewhat vague, is at least not absolutely misleading. Out of my 15 operation cases six have presented a distinct transverse tear through the edge of the meniscus, the torn fragment projecting into the joint and causing the characteristic locking, while the greater part of the cartilage remained in most cases fixed in its normal position. (*Vide* Figs. 2, 3, 4, and 5.) Fig. 6 represents the only case of external cartilage removed, and here there seems to have been some longitudinal splitting, causing thinning of the meniscus towards its middle. In one old-standing case the cartilage was found to be greatly thickened; in another the "ligamentum alare" and "infra-patellar pad of fat" were found to be much thickened and had to be removed in part along with the torn cartilage.

SYMPTOMS AND DIAGNOSIS.

The essential point in diagnosis is the inability *fully* to extend the knee. It is often stated that the joint is locked and that movements not only of extension but of flexion are impossible. Now, while a patient instinctively holds any

[1] THE LANCET, Jan. 4th, 1902, p. 7.

damaged joint stiff by muscular contraction, and while full flexion may also be interfered with by effusion into the joint (a condition which usually shows itself with great rapidity after the primary accident), my experience has been that in cases where the condition can be seen before effusion sets in, and where the confidence of the patient can be obtained, the knee can always be flexed by the surgeon fully and painlessly; but any attempt at full extension is accompanied by severe pain. This is a diagnostic point

FIG. 1.

FIG. 2.

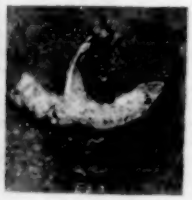

FIG. 3.

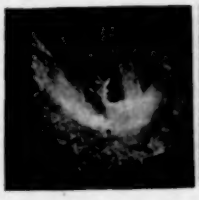

FIG. 4.

FIG. 5.

FIG. 6.

Fig. 1, Internal semilunar cartilage showing complete central splitting.
Figs. 2, 3, 4, and 5, Internal semilunar cartilages showing tearing of the free edge with protrusion of "tag" into the joint.
Fig. 6, External semilunar cartilage showing considerable changes due to injury.

of some value in enabling one to make a diagnosis between damage to the cartilage itself and strain or bruise of the tissues (ligaments, bones, &c.) lying in immediate anterior relation to the cartilage. In the former case full extension is painful, while full flexion is painless; in the latter case it is exactly the converse. This point is of importance, also, in distinguishing between an injured semilunar cartilage and a "loose body" in the joint, the latter condition being usually easily recognised by the shifting position of the pain and by the fact that now in attempts at flexion, now in attempts at extension, the characteristic "locking" and pain are produced, according to the changing position of the "loose body." I have not yet met with a case where the posterior insertion of the cartilage was completely separated (though in Fig. 5 it appears to be considerably damaged). If such separation does occasionally happen it is probable that then there would be a resulting difficulty in flexion.

It will be found that in many old-standing cases, while all other symptoms may have disappeared and ordinary movements of the joint are both free and painless, if the surgeon makes the patient sit on the edge of a chair and put his heel on the ground with the knee fully extended, and if firm backward pressure be now made by the surgeon on the knee, so as to hyper-extend the joint, distinct pain will be elicited across the front of the knee. I have noticed this symptom to last many months after the original accident—it sometimes seems to remain indefinitely. It may be an encouragement to the surgeon to interfere where the other symptoms, such as occasional locking, pain, or synovitis, unpleasant though they be to the patient, may yet not be sufficiently definite to warrant operation.

TREATMENT.

With regard to the best method for the easiest reduction of the displaced cartilage, here again we find considerable difference of opinion. Thus, for example, Dr. A. Logan Turner,[2] who has written an excellent paper on the subject, Mr. C. Stonham, C.M.G., and others recommend that the leg should be flexed, then rotated in the direction of the dislocated cartilage, and then extended. Da Costa advises rotation, but does not specify the direction; while in Treves's "System of Surgery" we are told to "bring the leg into full extension, rotating inwards and outwards at the same time," a piece of advice which is perhaps somewhat puzzling. Probably most surgeons are in favour of flexing, then rotating away from the side of the injury, while bringing the leg into full extension; for example, in the common case of the internal cartilage being displaced, flexing, rotating *outwards*, and then extending. This plan I have invariably found effectual, though an anæsthetic is usually necessary. It also would appear to be the most rational, for it can be easily seen when the knee-joint is opened how flexion and eversion of the leg open up the space between the tibia and the internal condyle, inversion of the leg approximating these surfaces while separating the tibia from the external condyle. One would consequently suppose that whether the internal meniscus was dislocated centrally or marginally this wide separation of the bony surfaces concerned would more easily allow the cartilage to slip or be pushed into place. It is, however, not easy to be sure as to the exact traction effect of the attachment of the cartilages to the internal lateral ligament (which structure is tightened by external rotation) and to other structures, and possibly some cases of internal dislocation may best be reduced by internal rotation; that, however, has not been my experience.

In the case of the primary injury to the cartilage, after it is reduced, it is of the greatest importance, in order to prevent recurrences, to give the torn parts sufficient time to heal firmly, while everything is done to prevent irritation and effusion. It is no waste of time for a patient to spend several weeks with his knee at absolute rest with this end in view. If this be done recovery is often complete, as I can testify from personal experience; and the joint may then be used for any purpose in sport or games as freely as the other. Of course, this remark only applies to a first attack; when recurrence has once taken place a permanently good result without operation is unlikely.

The use of splints is beneficial in proportion to the extent to which they limit rotation movements of the joint. For purposes of an athletic life they are mostly unsatisfactory and are far inferior to the results attained by successful operation. In the comparatively rare case of marginal protrusion of the meniscus a pad is possibly of value; in the commoner central displacement it is not so.

Indications for operation.—A patient below middle life who wishes to lead an active existence, who is in good health, who has no rheumatic or tuberculous tendencies, and whose cartilage is frequently giving him trouble, should have the operation performed.

Operation.—A curved incision is made through the skin and fascia, starting at the inner edge of the ligamentum patellæ just above the margin of the head of the tibia, passing downwards about an inch below the joint, and then curving upwards and backwards to end at the anterior edge of the internal lateral ligament. The flap being turned up, the capsule of the joint is then opened by a straight transverse incision, and (unlike Mr. Barker) I prefer to incise the joint above, and not below, the cartilage, cutting directly down upon the femoral articular surface about half an inch above the line of the meniscus. This incision gives one an admirable view and, I should suppose, would be much less likely to raise doubts in the mind of the operator as to how far his incision might not be responsible for the separation of the cartilage from its tibial attachment. Having exposed the cartilage—and for this purpose strong eversion of the flexed leg will be found of great service—it

[2] Edinburgh Hospital Reports, vols. ii. and iii.

is dealt with as follows: 1. If the cartilage is found entirely, or to a large extent, separated, or if much thickened or altered, excise the whole of it. 2. If the cartilage is separated from its anterior insertion into the tibia and curled into the joint, cut off the anterior part of the cartilage as far back as the internal lateral ligament. 3. If the cartilage is much torn or frayed in front carry out the same procedure. 4. If there is a torn tag or strip of the free edge of the meniscus projecting into the joint, while the main part of the cartilage is in place, cut off the tag or strip and leave the uninjured part. 5. Under no circumstances is stitching of the cartilage, or part of it, into place advisable. More might be said for this plan if the injury were quite recent and the torn surfaces fresh. It is true that several successful cases of stitching have been reported, but there are others in which stitching has failed and the cartilage has had to be removed at a second operation. Removal of the cartilage (or of a large part of it, usually the anterior half) is such a satisfactory proceeding—every one of my 15 cases having returned to active exercise, some even to football, &c.—that there seems no argument against excision in suitable cases.

Drainage of the joint after operation is not only unnecessary, but is dangerous. No fingers or strong lotions should be put into the joint; asepsis must be beyond all question. In two weeks splints should be taken off and the patient should be encouraged to move the joint a little in bed. In three weeks, if healing is sound and there is no effusion, the patient should be allowed to walk a little with sticks or crutches. These he may dispense with in another week or so; but it is safer not to allow football or any violent exercise of that kind for four or five months, after which time the joint is perfectly strong.

Edinburgh.

RHEUMATISM AS A CAUSE OF EPISTAXIS IN CHILDREN.[1]

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IN this short paper I shall not attempt to enumerate the many causes of epistaxis. But in practice I think we must all have met with cases which cannot be ascribed to any of the usually enumerated causes, and in out-patient rooms and elsewhere I have found epistaxis so commonly associated with evidences of rheumatism, in some form, that the association appears to be more frequent than could be due to mere coincidence.

The following are brief abstracts of notes of cases illustrating this association.

CASE 1.—A boy who had had rheumatic fever at the age of five years was brought to me at St. Mary's Hospital on August 1st, 1893, for epistaxis. He was then 10 years of age and his mother said that he had had attacks of epistaxis for years—even before the rheumatic fever. He was also subject to sore-throats. He had no pain anywhere, but his temperature was 99·6° F., and on examination I found effusion of fluid into both knee-joints and a soft mitral systolic bruit at the heart's apex. I admitted him into the hospital and he soon recovered from his joint affection under treatment by salicylates.

CASE 2.—A girl, six years old, was brought to St. Mary's Hospital on Sept. 25th, 1900, for epistaxis. She had been subject to attacks of it for three years but it had recently become more profuse. She was very anæmic and had enlarged tonsils. I ordered her perchloride of iron. Epistaxis recurred on Oct. 18th and on Nov. 21st the right knee became full of fluid. This gradually subsided, but in March, 1901, the child was again brought to the hospital suffering from effusion into the knees and pains in the limbs. These gradually subsided and she was well by June. This child for years had attacks of nose-bleeding.

CASE 3.—A boy, aged 11 years, was brought to St. Mary's Hospital on Nov. 6th, 1900, for nose-bleeding. I found his left knee full of fluid. He had no pain in this limb, and I only discovered its condition on searching for a cause for his epistaxis. The bleeding continued very freely on and off till Dec. 18th, though he was taking salicylates, but aspirin seemed to do him good. He came to the hospital again suffering from considerable pain and swelling of several joints in March, 1901.

CASE 4.—A girl, aged 12 years, had on June 10th, 1900, headache, sickness, and epistaxis. Next day her right wrist became swollen and epistaxis recurred. She was admitted under my care into St. Mary's Hospital on June 14th, 1900, with effusion into the right wrist and ankle and a very soft systolic bruit—in fact, she had all the evidences of a subacute rheumatic attack. A little later while in hospital there were slight choreic movements.

CASE 5.—A girl, aged 13 years, who had had rheumatism three times, suffered in March, 1900, from faintness, giddiness, and epistaxis. She was taken into St. Mary's Hospital on March 25th with effusion in the knee-joints, dilatation of the heart, and slight pyrexia. She soon got well under salicylate treatment.

CASE 6.—A girl, aged eight years, was brought to St. Mary's Hospital in 1888 with frequently recurring epistaxis. She had had rheumatic fever at the age of five years. I subsequently saw her in 1890 with epistaxis, and again in 1892 with slight rheumatism of the joints and epistaxis, and in 1895 she was taken into the hospital with a mitral systolic and an aortic diastolic bruit; there had been no bruits when I saw her before. In this case rheumatism in the joints and in the heart and epistaxis went on for a period of seven years, during which she was under occasional observation.

CASE 7.—The patient was a girl who had had chorea at the age of nine years and again in 1895, when she was 11 years old. She had never had rheumatic fever. She had had nose-bleeding two or three times a week and had been treated for this at the Hospital for Sick Children in Great Ormond-street. She came to me on July 15th, 1895, with epistaxis. No cause was discoverable for this except her rheumatic tendency and she got better under treatment by salicylates.

CASE 8.—A girl, aged 11 years, was brought to St. Mary's Hospital on Sept. 30th, 1901, suffering from chorea—a first attack. No cause was ascertainable; there was no history of articular swelling and nothing wrong could be detected in the heart. The patient had been subject to epistaxis at night for 11 months. She recovered from the chorea and the epistaxis under treatment by salicylates.

CASE 9.—A girl, aged 10 years, was brought to me at Paddington Green Children's Hospital on Oct. 6th, 1886, suffering from anæmia. She complained of giddiness when walking and she had choreic movements of the hands, occasionally dropping cups and saucers. She had never had rheumatic fever, but she had had scarlet fever at the age of four years. After attending as an out-patient for a month she came into the hospital under my care. Her heart was very irregular and weak, with a frequent dropping of the second sound and a systolic bruit. She had frequent attacks of epistaxis, slight choreic movements, irregular heart action with a systolic bruit, and recurring attacks of epistaxis. She gradually got well and the murmur disappeared; it had been due probably to dilatation of the ventricle.

CASE 10.—In a case which I saw in November, 1901, with Dr. P. Montague Smith a child, aged five years, suffered from sudden pyrexia and sore-throat with epistaxis. I was asked to see the patient as scarlet fever was feared, but we found that one of the knee-joints, though quite painless, was full of fluid. The child in a day or two developed more fully an attack of acute rheumatism with effusion into other joints. Inquiry elicited the fact that she had also had an attack of rheumatism a year previously.

In all these cases the urine was carefully examined and it was found to be free from albumin. There was no local nasal disease and no cause could be found for the epistaxis except that there were evidences of a rheumatic diathesis. I could bring forward many other cases similar to the above. In some of them the epistaxis came on with an attack of acute rheumatism, in others epistaxis alternated with attacks of articular inflammation, or was preceded by them and in some cases it occurred in connexion with chorea which was presumably rheumatic. That in children synovial effusion into joints and articular rheumatism may occur without any pain has often been pointed out, but it is even now scarcely sufficiently remembered; and I think if the joints were

[1] A paper read before the Harveian Society of London, Feb. 6th, 1902.

examined in some cases of epistaxis, a clue would be often found to the cause of the latter.

Epistaxis is one of the toxic effects of salicylates given internally. Dr. L. Shaw[2] found that it occurred in 11 patients of 174 under the treatment of rheumatism by salicylates. None of my patients, however, had taken salicylates before the epistaxis occurred, and all but one, who did not respond to it, took the salicylate with good result. It is possible that in some cases of rheumatism treated by salicylates where epistaxis occurs it is due to the disease and not to the drug.

In all the literature on rheumatism I have not found any suggestion that rheumatism may cause epistaxis except indirectly, through setting up endocardial changes. In a very excellent article on epistaxis by Dr. F. de Havilland Hall,[3] various alterations in the blood are mentioned which are attended with epistaxis as a prominent symptom—viz., hæmophilia, purpura, scurvy, chlorosis, anæmia, pernicious anæmia, and malarial poisoning, but not the rheumatic diathesis. The only suggestion I can find that rheumatism has any influence whatever in the causation of epistaxis is in a paper by Dr. Rendu[4] of Paris, quoted by Dr. Hall, in which it is said that epistaxis may occur in young persons who become later the subjects of piles or rheumatism. I think it may be said that epistaxis occurs in the young who are already the subjects of rheumatism.

There is nothing inherently improbable in the supposition to which many cases point, that rheumatism may give rise to epistaxis, for many other blood states are acknowledged to do so, and rheumatism is a known cause of one variety of purpura in which hæmorrhages occur from cutaneous and mucous surfaces.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF CHELOID.

BY H. TAYLOR, M.A. CANTAB., M.A., M.D. DUB.

A MAN, aged 21 years, healthy and dark-complexioned, with some tendency to acne as evidenced by the comedones scattered over his face, neck, and shoulders, sustained some two years ago—owing to the application by mistake of a poultice in an almost scalding condition—a large blister involving the skin over the lower ribs and the epigastric and hypogastric regions. This blister on healing left two elongated pigmented patches, unaccompanied, however, by any loss of the natural suppleness of the integuments until after the lapse of some five or six weeks, when the patient noticed that some "lumps" were forming in the outer patch; these gradually developed into a tumour which was tender and painful and which itched at times. It was, the patient states, however, completely removed by operation in October, 1900, but all the phenomena very shortly reappeared and in 10 or 12 weeks the recurrent growth was as large as ever. It now presents as two hard, fibrous, whitish-grey, spindle-shaped masses, with no evidence of any increase in vascularity, joined together in an A-shaped form by a shorter band of similar structure, and though at present the mass of the tumour has not trespassed beyond the area previously occupied the numerous outlying foci it is now surrounded with would point to an early encroachment on adjacent tissue. Tenderness, pain on pressure, and itching are complained of as in the original growth, but there is none of the burning sensation usually noted as one of the symptoms.

Virchow attributes cheloid to an irritation caused by, and proportionate to, the extent of the exciting lesion, while Alibert, who first described the disease, attempted to divide it into "true," or spontaneous, and "false," or cicatricial, cheloid. Others, again, would differentiate between a spontaneous or idiopathic growth and one arising from "scar tissue," but it is now considered very doubtful, in view of the many trifling injuries to the skin which may occur unnoticed or forgotten, whether it ever arises without some such exciting cause. It is sometimes associated with acne; it has developed in the scars of leech-bites, in those of vaccination, of herpes, and of small-pox. Showing itself as it usually does between the ages of 15 and 50 years it is a disease of adult life and more common in the dark than in the fair races.

It is affirmed by Liveing, in combating the view that a cicatricial cheloid is nothing more than a hypertrophied scar, that while in the former the tissue consists of fibres closely packed together and arranged in the long axis of the tumour, with a tendency to assume a spindle shape, in the latter the fibres run in every direction, forming a confused irregular network. This microscopical test, however, is not often applicable, and the same authority gives the following points in favour of a diagnosis of cheloid in distinction to that of one of "hypertrophied scar": (*a*) if the growth is on or near the sternum, especially if it be multiple; (*b*) if tenderness, pain on pressure, and subsequently itching be present in the tumour; he states further that (*c*) cheloid eventually extends, though perhaps very slowly, beyond the scar, and hypertrophy of scar tissue never does this. A spontaneous involution, more usually in young subjects (Hutchinson), sometimes take place, and Goodhart has recorded a case in which extensive cheloid tumours arising after small-pox had in a few months disappeared.

Removal by operation or caustics is never, as in this case, successful in preventing a return. Pressure applied by elastic bandages, mercurial plasters, or deep incisions into the growth have all been recommended, and Morris has seen moderately sized tumours completely disappear after electrolysis applied once a week accompanied by a daily massage. He also recommends, if the growth be painful, the injection in and around it of cocaine or the local application of belladonna or opium.

[2] Guy's Hospital Reports, 1887.
[3] Westminster Hospital Reports, 1893.
[4] La Semaine Médicale, June, 1884.

FREQUENT REPETITION OF TAPPING FOR ASCITES.

BY JOHN DAVIES, M.R.C.S. ENG., L.S.A.,
SENIOR SURGEON, BATH WESTERN DISPENSARY.

THE patient was a strongly-built, healthy-looking man, 50 years of age, of the country yeoman type. He described himself as a moderate drinker of malt liquor only, though he went as far as to admit that he at times substituted it for a more solid meal. My first visit to him was on account of an epileptic fit, the only one he ever had. In September, 1896, he found some difficulty in getting up and down from the box of a cab which he drove, and he complained of a feeling of distension in his bowels, which he likened to water rolling and splashing from side to side. A month after being treated internally for ascites he was tapped, that was early in October, 1896, from which date up to October, 1900, he was tapped regularly, at first once in three weeks, then once a fortnight, and ultimately every nine days, making a total of 150 tappings. At first from 12 to 14 quarts were withdrawn at each sitting by Southey's tubes; towards the finish less was withdrawn but the total quantity was over 250 gallons. In October, 1900, he died from cardiac failure. Some features in the course of the case were œdema of the right leg, which cleared up, and then the same happened to the left leg, and thrombosis of the veins of the right side of the abdominal wall.

Bath.

A CASE OF CANCRUM ORIS AFFECTING BOTH SIDES.

BY E. E. LASLETT, M.D. VICT., B.SC. LOND.

THE patient, a boy, aged six and a half years, was suffering from advanced pneumonic phthisis and for some weeks there had been great emaciation and weakness. For some days he had been suffering from severe stomatitis which was little influenced by local antiseptic treatment. The teeth became loose and dropped out or were pulled out by the boy himself. The gums were swollen and softened, and the lower gum especially was much discoloured in places. On Feb. 2nd, 1902, a black patch appeared on the skin over the right side of the lower jaw below the angle of the mouth. When I saw the patient in the morning of that day the

patch was of about the size of a two-shilling piece. The gums were now in an extremely foul state and the inside of the cheek was discoloured, but there was no ulceration. There was a constant saliva of foul-smelling, blood-stained saliva. Although suffering no pain the boy was so ill and weak that he was able to take very little nourishment beyond a little milk and small quantities of brandy. Owing to great thirst he drank copiously of lemonade, soda-water, &c. The patch of gangrene in the skin spread rapidly in all directions, and on the 4th its anterior limit passed in an oblique line across the lower lip to the gum, about half an inch to the right of the middle line. The inside of the cheek and the gum corresponding to this area were also black and gangrenous, but there appeared to be no attempt on the part of the surrounding tissues to separate the necrotic mass by ulceration. A patch of gangrenous skin had now appeared over the left side of the lower jaw in a similar position, and of about the same size as that first observed on the right side. The boy died on the 5th. Only palliative treatment was possible under the circumstances, as the hopeless condition of the patient from the first forbade the adoption of any surgical measures, even had the parents been willing to allow an operation.

Affection of both sides in cancrum oris is, I believe, rare, and the course of this case is also unusual in the extent of implication of the skin before any ulceration of the cheek took place. The absence of reaction on the part of the tissues was probably due to the greatly enfeebled condition of the circulation for a long time previous to the onset of gangrene.

Hull.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF ULCUS CARCINOMATOSUM OF THE PYLORUS.

(Under the care of Dr. W. MURRELL.)

THE connexion between simple ulcer of the stomach and a malignant growth is generally admitted and is well illustrated by the following case. Unfortunately, in many cases of carcinoma of the stomach the diagnosis cannot be made until it is too late for complete removal of the growth by operation. Of recent years laparotomy for simple ulcer of the stomach has been employed with success in certain cases and the advisability of an exploratory abdominal section may be considered in gastric ulceration when medicinal treatment has proved of no avail. In this way it may be possible to recognise and to remove malignant ulceration of the stomach at an early stage.

A woman, aged 35 years, was admitted to Westminster Hospital on April 12th, 1900, suffering from what was supposed to be gastric ulcer. She stated that in 1894, about a month after the birth of her first child, she had pain in the chest and back coming on soon after food and relieved by vomiting but unattended by hæmatemesis. This lasted for three and a half years when the symptoms subsided and for six months she suffered from no discomfort or inconvenience. A month before the second child was born she had another attack which lasted nine months, during which she frequently brought up blood but never in large quantities. About 18 months ago she again became pregnant and since then had suffered constantly from gastric symptoms. The pain after meals had been more pronounced and the vomiting more frequent. She stated that with intermissions her illness had lasted for six years and during the last two years she had lost flesh considerably.

On admission the patient was found to be very thin, but she presented no cachectic appearance; her weight was five stones eight pounds. She complained of a feeling of oppression in the epigastric region culminating in acute pain after food and relieved by vomiting. The vomited matter consisted of undigested food with a quantity of yellow frothy fluid having an acid reaction. There was very little abdominal tenderness, the stomach was only slightly dilated, and there was some thickening about the pylorus. The temperature was normal and the urine had a specific gravity of 1020 and contained no albumin. The patient was kept in bed and was placed on three pints of peptonised milk, five ounces every two hours, with plasmon custard, but the vomiting was so persistent that nutrient enemata with suppositories of beef peptones were substituted. These suppositories contained 50 per cent. of peptone of beef and each weighed 72 grains. The bowels were relieved from time to time by a simple enema. On this treatment she progressed favourably until May 14th, when there was a sudden rise of temperature. At 7 A.M. it was 103·4° F. and at 3 P.M. it was 104·6°, the pulse being 136. There was no sore-throat, or pneumonia, or endocarditis, and apparently nothing to account for it. She was put on small and frequently repeated doses of tincture of aconite and on the following day the temperature fell to 100°, although henceforth it was never quite normal and ranged from 100° to 101°. On the 16th she started an attack of diarrhœa which proved extremely obstinate and continued until her death. There were often from 10 to 12 evacuations in the 24 hours. The motions were loose, but not watery; they were small and greenish-brown in colour, not slimy, but very offensive. Various modes of treatment were tried without avail, including saturated solution of camphor in alcohol—three drops every five minutes—drachm doses of carbonate of bismuth every four hours, enemata of opium—15 drops of the tincture in two ounces of mucilage of starch—and from time to time pill of lead and opium. That these remedies were ineffectual is shown by the fact that she had 103 motions in 20 days, exclusive of those which were too small to note. Once or twice the stools were dark in colour and contained what was apparently broken-up clot. The patient gradually lost ground and early in May a small nodular mass was felt to the right of the middle line midday between the umbilicus and the ensiform cartilage. The stomach was dilated but not markedly so. On May 26th it was obvious that she was critically ill. She was losing flesh rapidly and was too weak to get out of bed. There was considerable anæmia and the face looked almost as if it were jaundiced, although the conjunctivæ were white. She was in no pain but took very little nourishment. The tongue was moist and tremulous and there were streaks of fur in the centre. The diarrhœa continued and there was prolapse of the rectum. There was no albumin or sugar in the urine. The stomach was more dilated, but the liver was not enlarged. At 7 A.M. on May 29th the temperature was 99°; at 11 A.M., 98·4°; at 7 P.M., 97·8°; and at 11 P.M., 96·4°. At 7 A.M. on the 30th it was 96·4°; at 3 P.M., 97·6°; and at 11 P.M., 96·8°. She died at 1.40 on the morning of the 31st.

Necropsy.—At the necropsy the stomach was found to be adherent about the pylorus to the liver. It was dilated and at the pylorus there was an ulcer consisting of two distinct parts. One, which was directed towards the stomach, was cicatrised and this was adherent to the liver, and the other, directed towards the pylorus, was fungoid in appearance. The two ulcers together were of about the size of a five-shilling piece. There were enlarged glands in the portal fissure and in the neighbourhood of the growth. There were no secondary deposits in the liver, which was fatty. The intestines showed melanic contents in places and the villi were atrophied. The spleen, adrenals, pancreas, kidneys, bladder, uterus, and ovaries were normal. Microscopical examination of the growth showed that the condition was one of spheroidal carcinoma. The muscular tissue about the pylorus was being invaded by a growth poor in cells and suggesting scirrhus.

Remarks by Dr. MURRELL.—This case is interesting in many ways and exemplifies the facility with which malignant growths of the stomach may be confounded with peptic ulcer. The disease commenced as a simple ulcer and after a time the cicatrix became the seat of carcinoma—an illustration of the well-known fact that damaged structures are not infrequently the point of localisation of cancer. The popular belief that scirrhus sometimes follows blows on the breast in the female is probably not without foundation. At what particular period of the patient's history the change commenced it is difficult to say. It was probably subsequently to the first illness in 1894, for there was a period of six months

during which she was apparently well and the stomach symptoms were quiescent. Too much importance, however, must not be attached to the temporary improvement, for Leube of Jena[1] records a case of cancer of the stomach, confirmed by post-mortem examination, in which the patient gained five pounds in weight in eight days. Our patient had been losing flesh for two years before admission, but even that is no proof that the disease had then assumed a malignant form. There was thickening about the pylorus, but that might have been due to the formation of cicatricial tissue from the healing of an ulcer. The first symptom to attract attention was the sudden elevation of temperature followed by persistent diarrhœa. It was probably septic in origin and there can be no doubt that the disease had then assumed a malignant form.

Malignant disease of the stomach is not common at so early an age, although several cases in young children have been recorded. In some of these, however, no histological examination was made and they may have been examples of sarcoma of the stomach or of hypertrophy of the pylorus. Norman Moore[2] published the case of a girl, aged 13 years, in which the microscopical characters of the new growth were those of carcinoma with somewhat wide trabeculæ and extensive degeneration of the cells. Perry and Shaw[3] mention a case in a woman, aged 32 years. The wall of the stomach was in large part destroyed and replaced by a mass of colloid, which freely invaded the abdominal wall and the neighbouring viscera. There was a secondary deposit in the liver. Histologically the growth was a spheroidal carcinoma with scanty stroma and colloid change. In 1898 there was a case in the Westminster Hospital[4] of cancerous infiltration of the pyloric portion of the stomach in a woman, aged 36 years. Micro-sections showed colloid carcinoma, the colloid degeneration being limited to the gastric mucosa in a few isolated patches between the muscle bundles. Again, in 1900,[5] there was a woman, aged 34 years, with a growth invading the whole wall of the stomach and implicating the liver. Microscopically it was found to be a much degenerated squamous-cell carcinoma. The cylindrical carcinomas are amongst the most common of the tumours of the stomach, but apparently neither age nor sex has any determining influence on the character of the growth.

The development of cancer in gastric ulcer is a well-recognised sequence of events, especially at the pylorus. Rokitansky and Dettrich were the first to describe this condition and Hauser gave an accurate histological description of it. Kollman in 1891[6] reported 14 cases and since then many others have been recorded. Some authors—Rosenheim, for example—say that it occurs in from 6 to 8 per cent. of the cases, whilst others consider that as an etiological factor it is of very little importance. Brinton[7] long ago pointed out that the presence of an open ulcer sometimes provokes the development of the cancerous cachexia as well as aids in determining the deposit of cancer in the particular organ. He had probably been impressed by a case which he had shown at the Pathological Society[8] some years previously in which the floor and especially the margin of a large gastric ulcer exhibited a deposit from a quarter to half an inch thick which on microscopical examination was found to be cancerous. There are two other cases recorded in the Transactions of this society, one by Goodhart (vol. xl., p. 78), in a man, aged 32 years, and another by Newton Pitt (vol. xlvii., p. 52), in a man, aged 57 years. Stewart[9] mentions a case in which there were two isolated carcinomatous ulcers. Tapret,[10] Bouveret,[11] Hayem,[12] Dieulefoy,[13] and various other writers record cases. This complication, however, cannot be very common, for Fenwick[14] says that only two genuine specimens were observed in the post-mortem room at the London Hospital during a period of 40 years.

The diagnosis of gastric carcinoma *ex ulcere* presents many difficulties, and it is often not easy to distinguish it from hypertrophic stenosis of the pylorus. For example, Hemmeter[15] speaks of a case in which no tumour was to be felt, and the only symptoms were those of cachexia in gastric ulcer. As Boas[16] has pointed out, in some cases the metastases in the liver or other organs with ascites or peritoneal carcinosis may excite suspicion, but such aids are rarely obtained, and in the majority of instances there is nothing to guide us until quite late in the progress of the disease. The discovery of the Oppler-Boas bacillus in the vomited matter may be of diagnostic importance.[17] In unstained preparations these organisms are readily recognised by their large size, their immobility, and their peculiar base-ball bat shape. They possess the property of forming lactic acid from various kinds of sugar, a constant parallelism being observed between the occurrence of these bacilli in large numbers and an excessive formation of this acid. Kaufmann demonstrated their presence in the vomited matter in 19 out of 20 cases of gastric carcinoma. Although, as shown by Schlesinger and Kaufmann,[18] they are not pathognomonic of cancer, and although there are many other organisms which form lactic acid, their presence is suggestive. Whether in this particular case pylorectomy as performed by Péan in Paris in 1879, and subsequently by Cavazzáni, Rydygier, Wölfler, Czerny, and others, would have stayed the progress of the disease it is difficult to say. Probably pylorectomy with gastro-enterostomy, as suggested by Billroth in 1885, would have been the better operation.

[1] Ziemssen's Cyclopædia, vol. vii., p. 250.
[2] Transactions of the Pathological Society, 1885, vol. xxxvi.
[3] Guy's Hospital Reports, 1891, vol. xlviii., p. 156.
[4] Westminster Hospital Reports, vol. xi.
[5] Ibid., vol. xii.
[6] Berliner Klinische Wochenschrift, 1891.
[7] Lectures on Diseases of the Stomach, 1864, p. 243.
[8] Transactions of the Pathological Society, 1858, vol. ix., p. 200.
[9] American Journal of the Medical Sciences, 1898.
[10] L'Union Médicale, No. 98, August 18th, 1891.
[11] Traité des Maladies de l'Estomac, 1893.
[12] La Presse Méticale, August, 1897.
[13] Ibid., November, 1897.
[14] Ulcer of the Stomach and Duodenum, 1900, p. 378.
[15] Diseases of the Stomach, second edition, 1901.
[16] Diagnostic und Therapie der Magenkrank.
[17] Deutsche Medicinische Wochenschrift, 1890, No. 5.
[18] Wiener Klinische Rundschau, 1895, No. 15.

BIRMINGHAM GENERAL HOSPITAL.

AN UNEXPLAINED CONDITION OF CHRONIC CYANOSIS, WITH THE REPORT OF A CASE.

(Under the care of Dr. SAUNDBY and Dr. J. W. RUSSELL.)

THE disease affecting the following case and the three other cases the records of which have been discovered by Dr. Russell is evidently a definite clinical entity and one which is new to medical science. It is not improbable that records of other similar cases may be discovered in medical literature. One of the most striking features of the disease is the great increase in the number of red corpuscles.

A man, aged 48 years, an electro-plater, was first admitted into the Birmingham General Hospital under the care of Dr. Saundby on April 24th, 1891, during Dr. Russell's term of office as resident medical officer. The patient complained of pains all over the body, most marked in the abdomen, and of general illness of five days' duration. He had, however, been feeling "out of sorts" and had suffered a good deal from headache for the previous three or four months. An epidemic of influenza was at that time at its height in the town and as the temperature was considerably raised the immediate symptoms were thought to be due to that complaint; but the spleen was persistently enlarged throughout his stay in the hospital. The urine had a specific gravity of 1010 and contained a trace of albumin; there were no casts. Beyond unusual pigmentation of the mammillæ and the presence of a few pigment marks about the trunk no abnormal colouration was observed. The patient was discharged on May 16th, the spleen remaining large as on admission.

Dr. Russell next saw the patient on Jan. 29th, 1898, when he attended as an out-patient. He then complained of pains all over the body, especially in the right side and head, of six weeks' duration. He was extremely cyanosed, and Dr. Russell therefore sent him into the hospital, where he was again admitted under the care of Dr. Saundby. The patient's family history was unimportant except that his mother died from phthisis. He had himself contracted syphilis at the age of 19 years. He had suffered from "gastric fever" at the age of 24 years, and a few years later he had a short attack of jaundice. There had been no other illness with the exception of that for which he was admitted in 1891, and from which he had entirely recovered. He had lived in comfortable surroundings and denied any alcoholic excess. The present illness had been coming on for about eight months, during which time he had suffered from pains in the abdomen of a gnawing character, generally worse in the earlier part of the day. These were mostly independent of food and were

relieved by lying down. There had been no vomiting. The bowels were habitually constipated. For the previous six weeks he had lost flesh and become increasingly weak. He found difficulty in standing for any length of time and in raising himself from the stooping posture and had been obliged to give up work because he was unable to walk to it. A few nights previously he had got out of bed and had fallen down and was so weak that he had to lie on the floor for the rest of the night. Since then he had kept entirely in bed. He was unable to give any date for the onset of the cyanosis.

The patient was a tall, fairly well-nourished man. His mental condition was dull and apathetic and he took but little notice of what went on around him. He was slow in answering questions and his speech was slow, thick, and mumbling. His memory and attention were impaired. The temperature was slightly subnormal. The face was extremely cyanosed, especially the nose, which was large and broad and showed many dilated venules. The conjunctivæ were injected and yellowish; the pupils were contracted. There was marked clubbing of the fingers. The skin over the trunk was slightly pigmented, especially on the left side from the axilla to the hip. There were small scars over both the front and the back of the chest and the front of the legs. The skin over the arms and hands was thin, soft, and cold and bright red in colour around the joints. The lower part of the legs showed considerable bronzing. The teeth were in an extremely bad condition, the majority being either missing altogether or represented by decaying stumps. The tongue was thickly furred. The superficial veins of the abdomen were enlarged. The spleen extended down to the level of the umbilicus and to the middle line in front. It was hard and but slightly tender. There were some increased resistance in the right hypochondrium and some tenderness in the region of the gall-bladder. The liver dulness extended half an inch below the ribs, but the edge could not be felt. The heart sounds were normal except for some little accentuation of the pulmonary second sound; the pulse was 96, soft and easily compressible. There was some enlargement of the glands in the groin, but no enlargement of the thyroid. The urine had a specific gravity of 1012 and contained a cloud of albumin. Microscopically, there were some epithelial cells and leucocytes, but no casts. The total quantity passed in the 24 hours averaged from 40 to 50 ounces, and the total amount of urea was at first 400 grains. Micturition was frequent, and the patient generally passed urine three times in the course of the night. Beyond the slow mental condition no abnormal psychical signs could be detected.

On Feb. 1st the red cells numbered 9,000,000 and the hæmoglobin measured over 120 per cent. The white cells were not increased. There was no alteration in the shape or the size of the corpuscles. The spectrum of the blood showed nothing abnormal. On the 5th it was reported that the urine gave no indican reaction and showed no abnormal spectrum. On Jan. 31st and Feb. 3rd and 7th the presence of a considerable quantity of uric acid was noted in the urine, and on the 6th the urea passed amounted to 738 grains. Only once—namely, on the 7th—were a few hyaline casts found in the urine. No noticeable alteration in the symptoms occurred during the patient's stay in the hospital, though occasionally he would appear to be unusually drowsy, and he was discharged in the same condition on March 20th.

Four days later (on March 24th) he was again taken to the out-patients' room on account of increasing drowsiness and he was again admitted into the hospital. The cyanosis was even more marked than before and there was distinct jaundice. He was extremely drowsy and apathetic, lay all day with his eyes closed and paid but little attention even when aroused. He constantly passed urine in bed and stated that he was not aware of doing so. The temperature was 99° F. and the pulse was 90. The liver dulness extended to half an inch below the costal margin. The blood count on March 25th and on April 2nd showed 7,360,000 red cells on each occasion. During the following days the condition steadily became worse. The cyanosis increased but the jaundice became less marked. The temperature fell below the normal level until the day of death when it rose to 100·8°. The patient died on April 8th.

Necropsy.—At the post-mortem examination the heart was found to be somewhat enlarged, weighing 13 ounces. The wall of the left ventricle was thickened and there was some old mitral valvular disease. No communication existed between the two sides of the heart. The lungs were engorged and the bronchial tubes contained a good deal of muco-purulent secretion. There were some adhesions between the pleuræ and the chest wall and diaphragm. The liver was large and very firm and weighed 66 ounces; the surface was smooth. The kidneys were large and congested; the right kidney weighed six and a half ounces and the left seven ounces. The capsules were not adherent. The suprarenal capsules were small, dark red, and very soft. The spleen weighed 48 ounces, but was of normal consistence on section. The brain was congested and the arachnoid was opaque in patches. The marrow of the femur was normal on naked-eye inspection, but was not examined microscopically. The condition of the thymus was not noted.

Remarks by Dr. RUSSELL.—Since seeing this patient I have come across the reports of three apparently similar cases, all of which were published in the Boston *Medical and Surgical Journal*, but I have not succeeded in finding any other reference to the condition in the literature of cyanosis. Brief notes of the three cases referred to are as follows:—

CASE 1.—The patient was a woman, aged 46 years, who was first seen by Dr. Cabot[1] in October, 1895. She was a masseuse and for two years had suffered from attacks of sudden mental and muscular prostration whilst at work. She had lately noticed increasing blueness of the lips, and during the attacks of prostration stated that her face got dark purple and her eyes bloodshot. The more severe attacks lasted for 24 hours and were accompanied by violent headache and nausea. Two weeks previously she had had an attack of sciatica, during which ecchymoses appeared on the outer side of the thigh. On examination the lips and nose were remarkably cyanotic and the whole face was dusky and apparently somewhat puffy. There was slight swelling of the ankles. The heart was practically normal. The temperature was 98·6° F. and the pulse was 90. The urine had specific gravity of from 1011 to 1016, and contained a slight trace of albumin and a few hyaline casts. It amounted to from 60 to 70 ounces, with eight or nine grains of urea to the ounce. The red corpuscles numbered 10,460,000 and the white cells numbered 20,000. The hæmoglobin measured about 150 per cent. The condition remained much the same for the next two years, but in January, 1897, the patient suffered from very free hæmorrhage after the extraction of a tooth. Shortly after, whilst walking in the street, her legs suddenly began to make peculiar movements of their own accord, and she had to hold on to some palings to keep from falling. In February, 1897, during one of her attacks of headache, weakness of the left arm and leg developed and she gradually became comatose and died on March 3rd. At the post-mortem examination there was a small hæmorrhage from the middle meningeal artery, with passive congestion of all the organs.

CASE 2.—This case was shown by Dr. Cabot[2] at a clinical meeting of the Medical Board of the Massachusetts General Hospital on Dec. 15th, 1899. The patient was a woman, an indiarubber worker, aged 49 years. She was first seen on Jan. 5th, 1894, and complained of vertigo, weakness, and constipation. She was then thought to be suffering from lead-poisoning. She did not attend again until Jan. 12th, 1895, when she complained of similar symptoms with palpitation and præcordial distress coming on during excitement or exertion. She had suffered much from headache. All her symptoms had been present for several years, but had markedly increased during the previous four months. On examination the face and mouth were cyanosed and the conjunctivæ were injected. The heart was normal except for a slight pulmonary systolic murmur. The edge of the liver was palpable, and the spleen could be felt two fingers'-breadth below the ribs. The gums bled easily. The hands and feet were blue but the fingers were not clubbed. The urine was of low specific gravity and contained a trace of albumin, a few hyaline casts, and a trace of bile. The hæmoglobin amounted to 120 per cent. She was discharged on March 28th, 1895. On April 4th, 1899, the patient again made her appearance in much the same condition. The red corpuscles numbered over 12,000,000. The skin showed considerable bronzing, especially about the axillæ, and some small leucodermatous patches about the trunk. The spleen extended a hand's-breadth below the ribs and the liver three fingers'-breadth below the right costal margin. The urine contained 0·1 per cent. of albumin. Later the red cells numbered 9,252,000 and the white cells numbered 10,600. The hæmoglobin then measured 110 per cent. The patient was readmitted on two subsequent occasions in the same year, but there was no material alteration in her condition.

CASE 3.[3]—The patient, a man, a packer in an iron-foundry, aged 53 years, was first seen on May 6th, 1901. He had been liable to sudden attacks of dyspnœa at intervals of from six months to two years during the last 20 years. There was no history of venereal disease and the patient had been strictly temperate. He had first noticed blueness of the face and hands one and a half years previously, and stated that it had come on suddenly whilst recovering from one of the attacks of dyspnœa. It often increased suddenly without any accompanying symptoms, and was not brought on by exertion, though it was generally more marked during an attack of dyspnœa. He had had no headaches. For two years he had been subject to frequent attacks of diarrhœa. On examination, there was extreme cyanosis of the face, especially of the lips and tip of the nose and ears. The small veins and capillaries of the skin were dilated. The hands and feet were very blue, and there was slight clubbing of the fingers. The conjunctivæ were injected; the gums were swollen and they easily bled. The heart was normal. The edge of the liver was not felt, but the dulness extended to two fingers'-breadth below the ribs; the spleen was felt one inch

[1] A Case of Chronic Cyanosis without Discoverable Cause, ending in Cerebral Hæmorrhage. By Richard C. Cabot, M.D. Boston Medical and Surgical Journal, Dec. 7th, 1899.

[2] Boston Medical and Surgical Journal, March 15th, 1900.

[3] A Case of Marked Cyanosis Difficult to Explain. By Sylvester F. McKeen, M.D. Boston Medical and Surgical Journal, June 20th, 1901.

below the costal margin. The temperature was normal. The urine amounted to 70 ounces; it had a specific gravity of 1015 and contained a trace of albumin and 35 grammes of urea. There were a few granular casts. The red corpuscles numbered 9,440,000 and the white numbered 9000. The hæmoglobin measured 120 per cent. The polynuclear white corpuscles amounted to 74 per cent., the small mononuclears to 13 per cent., the large mononuclears to 6 per cent., and the eosinophiles to 2 per cent.

These cases possess many points in common besides the extreme cyanosis. In three out of the four great weakness and prostration were prominent symptoms: the fourth patient suffered from attacks of dyspnœa, whilst one of the others had attacks of palpitation and præcordial distress. Three suffered from severe headaches and all were constipated. In all it is noted that the conjunctivæ were injected and in two bleeding occurred from the gums. The liver was slightly enlarged in three of the cases, but jaundice only existed in the one which I have reported, though in another there was once a trace of bile in the urine. The spleen was markedly enlarged in three of the cases and in all four there was a trace of albumin in the urine with a few hyaline casts. Patches of pigment were noted in one other case besides my own. The condition of the blood was practically identical in all four cases; there was a great increase in the number of red corpuscles, which often amounted to more than double the usual number. The hæmoglobin was always markedly increased, but by no means proportionately to the number of the red cells. The white corpuscles were either normal or but slightly increased. All the patients were over 45 years of age.

It is impossible to make any suggestion as to the pathology of these cases in the absence of more detailed anatomical observation. Dr. Cabot was unable to obtain any but the most meagre information of the necropsy on his case, and two of the other three patients were still alive when the reports were published. In the case which I have recorded there was no microscopical examination of the bone-marrow or the suprarenals, and the condition of the thymus was not noted. M. Weil [4] has recently recorded two cases of congenital cyanosis in children, apparently without heart lesion, but with "*hyperglobulie*" and, in one case, enlargement of the spleen, in which there were marked changes in the bone-marrow and thymus. A careful examination of the suprarenals is suggested by the extreme muscular feebleness which, apart from the cyanosis, was the leading clinical feature of my case.

I am indebted to Dr. Saundby for permission to publish the notes of the case.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Reactions of the Bone-marrow and other Leucocyte-forming Tissues in Infections.

A MEETING of this society was held on Feb. 18th, Mr. W. WATSON CHEYNE, the President, being in the chair.

Professor R. MUIR (Glasgow) made a communication, illustrated by lantern and microscopical demonstrations, on the Reactions of the Bone-marrow and other Leucocyte-forming Tissues in Infections. He pointed out the difference in distribution of the functional activities of the leucocytes—the germ centres of lymphoid tissue, Malpighian bodies, &c., and the bone-marrow being essentially formative areas and the lymph sinuses and splenic pulp being specially adapted for phagocytic activity, &c. The bone-marrow was the seat of formation of the characteristic elements of the blood—red corpuscles and granular leucocytes. He had shown by experiments that this activity as regarded neutrophile leucocytes was greatly increased in inflammatory and suppurative conditions. An account was given of observations in like states in the human subject, a great many different conditions being investigated. The results were entirely confirmatory, the leucoblastic change (neutrophile reaction) being shown not only by an increase of the myelocytes in the existing marrow, but by a partial change of the fatty marrow into red marrow. At the spreading margin of the young marrow the chief elements found were red corpuscles and neutrophile myelocytes, there being no evidence that the latter were formed from non-granular cells. The newly-formed marrow ultimately contained all the elements of the normal marrow, the distinctive feature being the relative excess of the neutrophile cells. Mitotic division was most active in these latter. In addition to the marrow obtained post mortem the condition of that obtained during life in cases of rib-resection for empyema was described. The state of the marrow in small-pox was then considered. In this disease there was always a percentage diminution of neutrophiles, though the actual number might be somewhat increased; the lymphocytes and hyaline cells showed both a relation and absolute increase, the percentage being sometimes as high as 60. The marrow showed very slight or no neutrophile reaction (a slight extension in the femur was often present) and there was often, especially in grave cases, a great depletion of its cells, notably neutrophile myelocytes, the place of them being taken by widened vascular channels distended with blood. The presence of these cells in the blood and the spleen was related to this change. These changes were the result of toxic action. The gelatinous change in the marrow was next considered, this affecting both the fatty marrow and the red marrow. Evidence was given to show that the essential factor in its production was starvation. It might be associated with leucoblastic change, though probably tending to interfere with the latter. The conditions governing the chief variations of the neutrophile cells in the tissues, the blood, and the marrow had been established; in all probability the eosinophiles behaved in an exactly analogous manner. The chief pathological changes in the bone-marrow were the following. 1. Changes in leucocythæmia—lymphatic and medullary respectively. 2. Reactive changes: (*a*) leucoblastic—the neutrophile reaction, in all probability also an eosinophile reaction, and possibly a hyaline reaction; and (*b*) erythroblastic—normoblastic after hæmorrhage, megaloblastic in pernicious anæmia, also in bothriocephalus anæmia. 3. Degenerative or retrogressive changes: (*a*) gelatinous marrow; and (*b*) fatty marrow, recorded in a case of idiopathic anæmia, possibly aplastic. The spleen was chiefly treated of in contrast to the bone-marrow, the outstanding feature being the extensive destructive changes in the former as contrasted with the formative functions of the latter. Acute enlargement was chiefly due to accumulation of blood or of leucocytes, hence variation in the colour. Both endothelial cells and hyaline cells might increase in number and size and act as phagocytes. In addition to bacteria, damaged red corpuscles and neutrophile leucocytes underwent an intra-cellular destruction by non-granular phagocytes (to a greater extent in animals than in the human subject); they were also digested extra-cellularly. Myelocytes appeared in the pulp, especially in severe cases, and with them nucleated red corpuscles were usually present. They probably represented an escape from the marrow owing to disturbance of its delicate structural arrangements. Proliferative changes occurred at the periphery of the Malpighian bodies, a zone of comparatively large basophile cells resulting (the potential myelocytes of Dominici, Bezançon, &c.). In the neighbourhood of these myelocytes might be seen, but it was not certain that the latter were formed from the basophile cells. The marrow elements present might merely be separated from the blood; the question of "myeloid transformation" must be considered an open one. With regard to lymphatic glands and other lymphoid tissues, evidence that an increased formative activity could be produced by substances in the blood was still wanting. In small-pox there was a lymphocytosis in the blood, but this might possibly be due to irritating substances carried by the lymphatics from the skin lesions, &c. Local hyperplasia of lymphoid tissue might be produced by abnormal conditions in the corresponding area drained through it. Enlargement of glands in infections was, however, usually due to one of two causes. The first was the emigration of neutrophile leucocytes from the blood-vessels (as in other tissues); these might invade the whole gland structure. In milder cases with favourable results these cells might be destroyed by the non-granular phagocytes and a return to normal follow. The other cause was the reaction in the lymph sinuses and paths—marked desquamation and proliferation of endothelial cells with phagocytic activity occurred. This was seen well in typhoid fever and also in a somewhat similar manner in small-pox, especially with extensive skin lesion. A study of the lymphatic glands in infections afforded no evidence whatever that

[4] Société de Biologie, June 29th, 1901; La Semaine Médicale, July 3rd, 1901.

neutrophile leucocytes were ever formed there. The remainder of the paper was occupied by a comparison and contrast of the granular and non-granular cells as regarded distribution, spheres, and rapidity of action, extent of supply, variations in size, &c.

Dr. WILLIAM HUNTER said that three points had been brought out by the paper, first, the origin of the polynuclear leucocyte from the bone-marrow; secondly, that the changes in the bone-marrow had been regarded as compensatory to the changes in the blood, whereas Professor Muir had shown that there were very constant series of changes which corresponded to infective influences; and thirdly, the relation between the spleen and the bone-marrow and the appearance of myelocytes in the spleen in cases of changes in bone-marrow. He had shown experimentally the changes in the bone-marrow after removal of the spleen.

Dr. J. H. DRYSDALE said that the finely granular cells from cases of myelogenic leukæmia certainly varied very considerably in size, whereas Professor Muir had stated that they were of very uniform size. He said that there might be a marked leucocytosis in the blood with a marked diminution of the leucocytes in the bone-marrow. He asked if the cases referred to as severe small-pox were cases of hæmorrhagic small-pox, and he said that he believed that such cases were small-pox with secondary infection.

Dr. A. G. PHEAR referred to a case of injury to the knee-joint with suppuration. Four weeks after the injury operation was performed, and following that there was profuse hæmorrhage; the patient died four days later. There was in this case a double factor—namely, suppuration and severe hæmorrhage some few days before death. The bone-marrow when examined was found to consist of a firm pink tissue of increased consistency with considerable diminution of fat cells. Three forms of cells were present—myelocytes, erythroblasts, and giant cells—and in two points the condition differed from that found by Professor Muir: firstly, since the number of the giant cells was increased and, secondly, the absence of any karyokinetic figures.

Dr. O. F. F. GRÜNBAUM asked whether the mitotic figures were more common in specimens obtained post mortem than in those obtained during life.

Professor MUIR, in reply, said that in mentioning the size of the finely granular cells he had not especially referred to their condition in leucocythæmia, but in the bone-marrow they did remain very constant in size. He did not think that the mitotic figures were more common in specimens of bone-marrow obtained post mortem than in those obtained during life.

CLINICAL SOCIETY OF LONDON.

Seventy-four Cases of Appendicitis with Localised Suppuration, with Special Reference to the Treatment of the Appendix in such cases.—The Treatment of Intra-peritoneal Abscess of the Appendix, Illustrated by Cases.

A MEETING of this society was held on Feb. 14th, Mr. HOWARD MARSH, the President, being in the chair.

Mr. H. GILBERT BARLING read a paper on 74 Cases of Appendicitis with Localised Suppuration. He said that of 140 cases of appendicitis operated upon in the acute stage 74 had been cases of localised suppuration in the right iliac fossa or immediately adjacent to it. In 46 of these the abscess, though well shut off by adhesions, had not yet come forward so as to be adherent to the parietal peritoneum and operation involved the opening of the general peritoneal cavity. In the remaining 28 cases the abscesses had become adherent and were evacuated without opening the general cavity. The points to which attention was directed were (1) the diagnosis of pus and the time at which it should be evacuated; (2) the safety with which this could be done if the removal of the vermiform appendix was not insisted upon; (3) the rarity with which recurrence took place if the appendix was not removed; (4) complications at the time of, or following, operation; and (5) certain risks to life which follow attacks of appendicitis apart from recurrence. The abscess should be attacked as soon as the diagnosis of suppuration was made, but it should be remembered that pus might be present in the presence of a normal temperature and pulse, though there might be other symptoms indicating it. Leucocytosis, though not pathognomonic, was decidedly valuable. In a series of 21 cases in which pus was present leucocytosis was only absent in two cases and in every case examined where a high leucocyte count was found pus existed. The safety with which appendix abscesses might be treated if removal of the appendix was not insisted upon was shown by the small mortality in the cases under discussion. In the 74 cases there were two deaths. The appendix was only removed 25 times and in 49 it was not removed. All but two of those patients in whom the appendix was not removed had been traced since, and of these two, both hospital patients, nothing could be learnt; of the other 47 patients only one had suffered from recurrence—a girl who had had another attack within a few weeks of her operation and who was subsequently operated upon successfully and the appendix removed. Complications were not numerous and had been chiefly phlebitis and pleurisy and pneumonia.

Mr. F. C. WALLIS read a paper on the Treatment of Intra-peritoneal Abscess of the Appendix illustrated by eight cases. This paper dealt with those cases of appendix abscess in which the abscess, although shut off by adhesions from the general peritoneal cavity, was in no way adherent to the abdominal parietes. It was therefore necessary to open the general peritoneal cavity before the abscess could be dealt with. In giving details of the operation great importance was attached to the fact that all the cases quoted except one occurred in young people and that adhesions at this age were very frail and required delicate manipulation to prevent the pus under tension in the abscess-sac from escaping uncontrolled into the general peritoneal cavity. To prevent this Gamgee sponges were packed in a crescent around the affected area and when possible the pus was gradually evacuated and sponged up as it appeared. When the amount and tension of the pus was too great for this to be done the patient was tilted bodily over to the right side and the escaping pus was caught in a small bowl held underneath. When most of the pus had been evacuated the cavity was more freely opened and thoroughly cleansed. The appendix and its remains were then removed and the cavity was dusted with iodoform and packed with iodoform gauze. It was a matter of importance to keep the wound as dry as possible. The necessity for operating quite early after the primary attack in young people was strongly urged.—Mr. A. E. J. BARKER said that he had seen several severe cases of recurrent appendicitis in those patients in whom the appendix had not been removed at the primary operation. As an instance of this he quoted the case of a lad, aged 15 years, in whom the appendix could not be removed at the first operation and he had had five recurrences, and in some of these there had been severe collapse. He (the speaker) thought it advisable that the appendix should be removed at the time of the first operation if it could be done easily, otherwise it was best to wait till the acute stage had passed and to remove it in the quiescent interval. He was in favour of washing out the abscess cavity with saline solution and he was of opinion that strong germicides should not be used. It was, however, essential that a free exit for whatever fluid was used should be allowed. He thought that more effective drainage was obtained by means of an aseptic gauze "apron" than by means of a tube. He was greatly in favour of separating the muscle-fibres instead of making an incision through them, and sufficient room to evacuate the abscess was nearly always obtained and the advantage to the patient was undoubtedly great.—Mr. JAMES BERRY said that it was inadvisable to remove the appendix in all cases of suppurative appendicitis, although such a practice had been advocated by some surgeons. He said that there were two schools, firstly, those who waited till the abscess was "safe," and secondly, those who opened the abdomen widely and removed the appendix at once. He was greatly in favour of waiting till adhesions had formed and making a small opening, and in support of this view he brought forward the following statistics. In 41 cases of appendicitis in which a small opening had been made only two patients died, while in 39 cases in which an extensive operation had been performed only seven recovered and 32 died. During a period of two years there were 240 patients suffering from appendicitis admitted to the medical and surgical wards of St. Bartholomew's Hospital; of these 39 died, a proportion of one in eight; taking the cases admitted to the surgical wards only the mortality was one in seven. Of 200 cases admitted to St. Mary's Hospital 25 patients died, giving a proportion of one in eight; of these 102 were admitted to the surgical wards and 22 died, giving a mortality of one in four. He thought that it was better to wait rather than to attempt to remove the appendix in the-

acute stage. With regard to his own and Dr. Sainsbury's cases at the Royal Free Hospital, he said that during the last five years they had had 53 cases. 49 of the patients in these cases got well, four died, a mortality of one in 13. 34 of these had been admitted to the surgical ward and of these three had died, a mortality of one in 11. Of the patients in those three cases in which death occurred one was an old man, aged 51 years, who had general peritonitis and had been ill for four days when first seen; a second was a boy who died from intestinal obstruction: and the third was a case in which if operation had been performed early the fatal termination might have been prevented. He asked if Mr. Barling attached any importance to the presence of a low temperature, as he had seen such cases and they seemed to him comparable to those cases of low temperature in association with abscess in the brain.—Mr. CUTHBERT S. WALLACE said that he had met with three cases of recurrent abscess after appendicitis. The first was a woman, aged 53 years, who four months after the primary operation had an abscess in the same situation, and after incision the patient again recovered. The second was in a man in whom an abscess recurred four months after the first operation. The appendix was removed at the second operation, but the patient died on the twelfth day. The third was in a man who had a recurrence two and a half months after the first operation. In the St. Thomas's Hospital Reports from January, 1895, to December, 1901, there were eight cases of recurrent appendix abscess. One of these occurred three weeks after the first abscess had been opened; in the remainder the interval between dates of admission and re-admission was from two to four months, except in two cases in which the interval was 19 months and seven years respectively. During this period 128 localised appendix abscesses had been incised, making a recurrence frequency of 5·5 per cent.—Mr W. G. SPENCER said that he should always open an appendix abscess as soon as he had diagnosed the presence of pus. He considered that the iliac incision was far better than one opening the general peritoneal cavity, as it was easier to find the appendix, or if not found at once it could be traced from the cæcum. He criticised Mr. Berry's statistics in respect of the comparative mortality between medical and surgical cases and thought that they did not fully represent the facts, as in many cases the patients died before they came to operation, and therefore would not be included in his figures. [Mr. BERRY denied that he had instituted any such comparison.] He asked Mr. Barling if the patients in his cases had remained in good health after the operation, for he thought that although these patients did not have recurrence they yet frequently suffered from general ill-health. He considered it advisable to remove the appendix at the time of the first operation. He had employed a method of secondary suture in two cases where the abscess had been large. He incised the abscess, packed the cavity with gauze, and after a week, when granulations had formed, he sewed up the cavity.—Mr. C. R. B. KEETLEY said that he was inclined to remove the appendix in as great a proportion of cases as possible and he considered that by using gauze packing in a systematic manner this could be done without increasing the risk. He thought that it was best to open the abdomen in the mid-line, for in this way a view of the condition present could be obtained. He considered that it was rare to meet with multiple collections of pus.—Mr. CHARTERS J. SYMONDS thought that it was much better not to remove the appendix in most cases. He considered it better to make an incision nearer to the anterior superior spine than over the most prominent part of the swelling, for in this way one was less likely to open the general peritoneal cavity. In considering the dangers which attended the non-removal of the appendix he said they were two: firstly, the possibility of recurrence (and of these he had seen two cases both discharged through the old scar); and secondly, the possibility of the formation of a sinus. Neither of these did he consider of serious consequence. He was in favour of immediate operation and he did not think that he had ever seen any harm follow such practice. If the general peritoneal cavity was opened he thought it best to pack the cavity and to open the abscess. If the swelling was found to be in the lumbar region it was best to close the abdominal opening and to open the abscess in the loin. If the swelling was in the pelvis he recommended that the abscess should be opened into the rectum.—Sir THOMAS SMITH said that he considered that the incision should be made low down; if it were made over the most prominent part of the swelling there was considerable chance of opening the general peritoneal cavity. If he failed to obtain pus after making the low incision he was in the habit of putting in a drainage-tube and he had often seen the pus come through this after a few days.—Dr. H. A. CALEY stated that the proportion of relapses in cases which had been operated on was certainly not more than from 1·5 to 2 per cent. and that 5 per cent. was too high. He asked if a counter opening in the lumbar region might not be of value in some cases.—Mr. BARLING, in reply, said that the general consensus of opinion of the society had been that the appendix should not be removed unless this could be done with ease. He could not agree with Mr. Berry with regard to waiting, but would always operate at once.

BRITISH ELECTRO-THERAPEUTIC SOCIETY.

The Present and Future of Electro-therapeutics.

A MEETING of this society was held on Feb. 14th, Dr. W. S. HEDLEY, the President, being in the chair.

Dr. H. LEWIS JONES read a paper on the Present and Future of Electro-therapeutics. The changes in the practice of medical electricity which had taken place in the last 12 years were numerous. The general introduction of public electric lighting supplies had not only helped greatly to extend the practice of medical electricity, but had also provided the profession with a new and valuable agent in the sinusoidal current. In electrical testing there was still need for a method of measuring induction-coil currents, and the difficulties of doing this might be evaded by the substitution of condenser discharges in place of them. Galvanometers and electrodes were much improved. The brass handles and the wet sponges were, or ought to be, things of the past. Chemical batteries, with the troublesome preparation of exciting fluids, were being rapidly discarded by the profession and the modern dry battery or the portable accumulator was superseding them, with the result of greater simplicity in working and greater confidence in the instruments used. The static machine had begun to return to favour and seemed likely to achieve great things in the near future. The treatment of lupus and of rodent ulcer by electrical methods seemed to be assuming an established position. In a case of ulcerated cancer of the breast under treatment at St. Bartholomew's Hospital there had been extensive healing from exposures to x rays. The patient when admitted had a large open ulcerated wound of the right breast, measuring about four inches in one diameter and five inches in the other. Treatment with x rays was commenced on Nov. 14th and an exposure of 10 minutes was given four times a week, with few omissions, until Jan. 17th. After a few days signs of healthy cicatrisation began to appear round the margins of the ulcer. This continued to advance until the healing process had extended inwards from the margin for a distance of fully half an inch all round. Curiously, the new epithelium was deeply pigmented. The centre of the wound gradually ceased to slough and appeared to be in process of healing all over; but, unfortunately, the patient being at a late stage of her illness, secondary deposits in remote parts of the body became very disagreeably evident. She suffered a spontaneous fracture of both the femur and the humerus, and the x-ray treatment was suspended in view of the hopelessness of the future of the patient. The total number of exposures was 17, and it was very important to note that many were made with the ulcerated surface covered by dressings or bandages. Since the suspension of the treatment exactly four weeks ago, the process of healing had gone on quite steadily, and now there was a firm and healthy scar covering the whole surface, except about one square inch in the centre. This portion was also a healthy healing surface, though not yet covered by epithelium. Thus nineteen-twentieths of the area of a cancerous ulcer had healed in three months as a consequence of x-ray applications, and the result was obviously a most significant one. The local effect was splendid, but there was no influence upon the spread of the disease in the remote parts of the body. Indeed, it would have been unreasonable to expect it. The opportunity must be hoped for of treating some cases of cancer in the early stage when the disease was still limited to the superficial part, for when the disease was no longer local but had implicated distant and deep-seated

organs it was too late to apply x-ray treatment to the original site of the disease. Dr. Lewis Jones concluded by explaining that the scope and aim of the British Electro-therapeutic Society were mutual instruction by bringing forward reports of work done and scientific examination of that work. Uniformity in apparatus was to be brought about and they must be prepared to inform scientific men as to the instruments which they could usefully employ in investigations. The journal of the society must be the medium for putting all their members in touch with what was being done, both at home and abroad. The encroachment of unqualified persons upon the field of work of the society was a very serious matter which should engage the attention of all the members. In some instances medical men had too thoughtlessly countenanced this practice and it was only too late that the medical men discovered the loss which they sustained and were sustaining. The taking of x-ray photographs by photographers and instrument-makers was undoubtedly a bad thing for the profession. The treatment of lupus by any irresponsible person who happened to have an induction-coil should not be countenanced by any medical man, and with the possibility of the use of the x rays in the treatment of cancer the danger became greater. He had been told already of a fatal case where a patient suffering from cancer died from the effects of the x-ray treatment applied by an unqualified person.

Dr. G. HERSCHELL, Dr. S. SLOAN, and Mr. J. F. HALL-EDWARDS (Birmingham) exhibited Apparatus, and Mr. E. W. H. SHENTON showed Radiograms illustrating Certain Points in Hip-joint Injuries.

LIVERPOOL MEDICAL INSTITUTION.

Cerebellar Abscess with Thrombosis of the Lateral Sinus.—Exhibition of Cases.—The Preparation of the Hands for Surgical Operations.

A MEETING of this society was held on Feb. 13th, Mr. RUSHTON PARKER, the President, being in the chair.

Mr. DAMER HARRISSON described a case of Cerebellar Abscess with Thrombosis of the Lateral Sinus in a young man who had suffered from ear disease for 11 years. There were some dulness of the intellectual faculties, paresis of the right facial nerve, and a tendency to fall to the right side. There were also some swelling over the mastoid process and fulness in the upper part of the neck. There was no optic neuritis. The antrum was cleared, the necrosed inner wall was removed, and the abscess cavity was opened up. The patient became very collapsed and further operation was deferred. After a few days, the temperature being still irregular, the internal jugular vein was exposed and ligatured below the thrombus; an excised bit of vein contained a softening clot. The patient made an excellent recovery.—Mr. C. G. LEE had seen some 30 cases of cerebral and cerebellar abscess resulting from ear disease. In many cases it was often impossible to say in which situation the abscess was. Optic neuritis was as frequently absent as present in cases of cerebral and cerebellar abscess. Cerebral abscesses were frequently multiple, and he referred to the case of a child who had paralysis of one arm and leg in which he opened and evacuated the abscess. This was followed by complete recovery of the limbs. Ten days later the child died, and the post-mortem examination showed the whole of one occipital lobe necrosed and several small abscesses scattered about the cerebrum.—Dr. PHILIP NELSON asked if the source of the discharge from the ear had been definitely ascertained, for owing to difficulty of drainage mastoid and other complications were more liable to occur when the attic was the seat of the trouble, the perforation being in the membrana flaccida. Referring to the facial palsy, he pointed out the frequency of this trouble in tuberculous disease, particularly in children.—The PRESIDENT, Dr. W. PERMEWAN, Dr. A. S. F. GRÜNBAUM, and Mr. R. W. MURRAY spoke, and Mr. HARRISSON replied.

Dr. NATHAN RAW showed a woman upon whom he had performed Cæsarean section twice. There was no evidence of rickets. The conjugate diameter of the pelvis was two and one-third inches, the promontory of the sacrum projecting markedly. At the time of the first section the patient had been 26 hours in labour and general cutaneous emphysema was present. The child from the second section was shown and attention was drawn to the circular shape of the head. Dr. Raw raised the question as to what the correct procedure was in this case. The patient was unmarried. He thought that she must take the consequences, but it was a most difficult question to answer.—The PRESIDENT, Dr. W. MCFIE CAMPBELL, Dr. H. BRIGGS, Mr. F. T. PAUL, Mr. HARRISSON, and Mr. G. P. NEWBOLT spoke, and Dr. RAW replied.

Dr. DAVID MORGAN showed three cases of very obstinate and extensive Lupus and Rodent Ulcer cured by the x rays and violet light. The first patient, a woman, aged 34 years, had suffered from childhood from lupus of the nose and cheeks. Every variety of surgical treatment had been adopted, including over 40 scrapings, but the benefit was only temporary. X ray treatment had proved quite successful, the patient exhibiting a very healthy white scar. The second case was that of a tuberculous ulcer of the cheek of limited size treated by the violet rays. A healthy cicatrix formed in six weeks. In the third case a large rodent ulcer presented over the scalp and forehead in an elderly spinster. The disease had been in progress for many years and was too extensive for excision. Three months' treatment with x rays had cured the disease.—Dr. FRANK H. BARENDT thought that the results produced by the x rays and light treatment in Dr. Morgan's three cases had been unattained by any method hitherto practised. The case of healed serpiginous rodent ulcer of 12 years' duration showed an excellent result. No previous treatment had any permanent effect, and now the former site of the ulcer was occupied by a smooth and to the naked eye sound scar; moreover, there was a total absence of any return. The dermic results of the x-ray and light treatment could not at present be explained; it was futile to theorise about these therapeutic effects in the absence of definite knowledge of the nature of the rays which had produced such remarkable results as were portrayed in these cases.—Dr. G. G. STOPFORD TAYLOR congratulated Dr. Morgan upon his interesting and instructive demonstration. He said that the effect of the "light" treatment was largely superficial, and the number of cases to which it could be applied were limited in number on account of the necessity of actually placing the lamp in contact with the surface. With the x rays it was quite a different matter as they certainly penetrated much more deeply and could be therapeutically applied to every part of the body.—Mr. ARTHUR N. WALKER mentioned that Dr. Finsen had found Bang's iron electrode lamp unsuccessful in the treatment of lupus on account of the lack of penetration of its rays.—The PRESIDENT and Mr. PAUL emphasised the need for microscopical confirmation of the diagnosis.—Dr. PERMEWAN and Mr. C. T. HOLLAND also spoke and Dr. MORGAN replied.

Dr. T. B. GRIMSDALE described the method which he had used for some time in the Preparation of the Hands for Surgical Operations. The hands were cleaned with a nail-brush and boiled water for a definite time, then they were soaked in a solution of potassium permanganate, the colour was discharged by washing in oxalic acid solution, the acid neutralised by washing in sterilised lime water, and, finally, the hands were washed in sterilised water. The results of this method had been rigorously tested on several occasions by Dr. E. E. Glynn, Dr. J. H. Abram, and Dr. C. Hill. In every instance Dr. Grimsdale's hands and those of his assistants were sterile, and his opinion, therefore, was that the hands could be made practically sterile. Moreover, of all the methods that he had tried this one had the least roughening action on his skin—in fact, it did not roughen it at all. He did not think that the method was simply mechanical in its action.—The PRESIDENT, Dr. BRIGGS, Dr. HILL, Dr. GRÜNBAUM, Mr. HARRISSON, Mr. PAUL, and Mr. G. A. HAWKINS-AMBLER discussed the paper, and Dr. GRIMSDALE replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

(*Concluded from p. 455.*)

Chloroma and Lymphatic Leukæmia.—Infantilism.

WE now conclude our report of the fifth ordinary meeting of the present session of this society, held on Feb. 5th, Professor T. R. FRASER, the President, being in the chair.

Dr. BYROM BRAMWELL read notes of a case of Chloroma and of three cases of Lymphatic Leukæmia, illustrated with water-coloured drawings and lantern-slides. In the first of these cases the patient was a married man, aged 25 years,

who had enjoyed excellent health up to October, 1900, when he accidentally discovered a small glandular swelling on the left side of the neck below the jaw; a week later a similar swelling developed on the right side of the neck. In January, 1901, an eruption developed on the front of the chest and gradually extended over the greater part of the body. In February rheumatic pains were felt for a fortnight in the back. In April the face and gums swelled, the eyes became watery and painful and the voice husky, and some deafness developed. On May 22nd, 1901, the patient was sent to Dr. Bramwell by Dr. C. E. Douglas of Cupar. The condition was then as follows. The patient was much debilitated and had lost a stone in weight. He complained of soreness of the mouth and gums and of deafness, more marked in the right than in the left ear. He was not anæmic. There was no excess of white corpuscles in the blood. The face was swollen, the swelling being chiefly due to the presence of nodular swellings in the skin, œdema of the skin, and glandular swellings in the neck and parotid regions. The voice was husky, the breathing was attended with some stridor, there was frequent cough, and the patient could not breathe through the nose. The pulse was quick (from 120 to 130) and the temperature was 100·6° F. A remarkable eruption was present over the greater part of the body; it was copious on the thorax, the abdomen, the back, the arms, the face, and the scalp, but sparse over the lower extremities. The eruption consisted of flat-topped nodules varying in size from that of a pin's head to that of a sixpenny-piece. In many places the nodules were confluent and they produced a uniform raised infiltration of the skin; they were painless, not adherent to the deeper parts, and for the most part of a slatey-grey or purple-grey colour, some of them being yellow in their centres. The gums were enormously swollen, firm, and of a dark purple colour, and the right tonsil was much swollen and was also firm and of a dark purple colour. The conjunctivæ presented a peculiar appearance, being infiltrated with a translucent fleshy-looking growth in which vessels could be seen ramifying. There was no exophthalmos. The optic discs were normal. The glands on each side of the neck below the jaw were swollen, hard, and painless. The parotid glands appeared to be enlarged. There was some symmetrical swelling in each temporal region. The splenic dulness was increased. The liver was somewhat enlarged. The urine was normal. There were no pigmented moles or warts, but Dr. Bramwell concluded that the case was probably one of melanotic sarcoma, with peculiar infiltration of the skin, the gums, the tonsil, and the conjunctivæ. The patient was admitted to the Edinburgh Royal Infirmary on May 23rd and he remained there until his death, which took place a month later—on June 24th. Microscopical examination of portions of skin excised during life showed that the case was not one of melanotic sarcoma; the nodules in the skin consisted of lymphoid deposits and were entirely made up of small unenucleated round cells. The blood-count showed that the red corpuscles numbered 4,480,000 and the white corpuscles 8000 per cubic millimetre. The white corpuscles were almost entirely (95 per cent. or more) lymphocytes, chiefly large lymphocytes, with large nuclei and clear, non-granular protoplasm. During the month that the patient remained in hospital the condition of the blood remained practically the same. The temperature was elevated, the highest point reached being 104°, and the pulse was remarkably quick (from 110 to 160); the respirations were always above the normal (from 25 to 35). The breath was foul and the gums occasionally bled slightly. No micro-organisms were detected (either in stained films or after incubation of gelatin tubes) in the blood. The skin eruption increased and many of the nodules became yellow, some yellowish-green, and a few on the face distinctly green in colour. The face became much more swollen. The fleshy infiltrations of the conjunctivæ became much larger. On post-mortem examination the skin lesions (nodules) on the face, the thorax, the abdomen, the back, and the arms were of a green colour; some of the glands in the neck were green, the tonsil was green, and the epiglottis and laryngeal mucous membrane were green. The bones of the head and face were not examined (permission was limited to the respiratory and abdominal cavities). The glands in the neck were enlarged, the spleen and the liver were enlarged, and the gums, the tonsils, the epiglottis, and the larynx were greatly swollen, the swelling being due to lymphoid infiltration. The bone-marrow of the ribs contained some, but not very numerous, lymphoid cells similar to those in the skin, the gums, and the blood. There were some petechiæ on the heart. The thoracic, the abdominal, the axillary, and the inguinal glands were hardly affected at all. The kidneys were infiltrated in places with lymphoid deposits. The case was undoubtedly one of chloroma. The condition of the blood corresponded to that of acute lymphatic leukæmia and it was very important to note that the leucocytes (95 per cent. or more of which were lymphocytes) were not increased in number (8000 per cubic millimetre). The mere fact that the leucocytes were not increased in number did not exclude leukæmia. It was necessary to note the character of the leucocytes in stained films. The case was remarkable because of the lesions on the skin and the very peculiar infiltration of the conjunctivæ, the gums, the epiglottis, and the larynx. Dr. Bramwell had never seen anything like the condition of these parts before. Curiously enough, another case in which exactly similar lesions were present had since come under his observation. The second of Dr. Bramwell's cases was one of acute lymphatic leukæmia with a similar lesion in the gums, the epiglottis, and the larynx to that which was present in the first case. The patient was a man, aged 33 years, who was admitted to the Edinburgh Royal Infirmary on Sept. 29th, 1901, and who died on the following day. He complained of shortness of breath on exertion, of deafness, and of glandular swellings on each side of the neck and the jaw. The deafness had commenced a month previously, but he had continued his work until three days before his admission to the hospital. He was a thick-set, well-nourished, muscular man. There was no anæmia—in fact, his face and lips were turgid and cyanotic. No examination of the blood was made during life, but after death the blood was found to contain a large excess of lymphocytes, mostly of the large form. The patient was very deaf. His voice was husky and almost toneless, he was very short of breath, and the respiration was attended with stridor. Large, hard, painless, glandular swellings were present on each side of the neck, being especially marked about the angle of the jaw, the face was swollen and blue, and the veins of the neck were somewhat engorged. Dr. Bramwell, who had seen the patient for a moment on his admission to hospital but had not made an exhaustive examination of the case, thought that the condition was suggestive of enlargement of the mediastinal glands with intra-thoracic pressure. The case had been more carefully examined by Dr. Montgomery Bell, house physician. The chest was full of bronchitic râles. The pulse numbered 108, the temperature was 102°, and the resipirations were 20. The tonsils were swollen and ulcerated. The patient died on the day following his admission to hospital. Post-mortem examination showed that the case was one of acute lymphatic leukæmia. The glands throughout the body were enlarged; the spleen, liver, and kidneys were infiltrated throughout with lymphoid cells; and the bone marrow was of a dark purple colour and was infiltrated with lymphoid cells. In the skin of the back and neck there were several lymphoid deposits similar to those which were present in the first case and the condition of the gums, the tonsils, the epiglottis, and the larynx was also identical with that in the first case. Some of the glands in the neck in the case under consideration were found on section to be green in colour. This case was undoubtedly a typical example of very acute lymphatic leukæmia with peculiar lymphoid infiltrations of the gums, the tonsils, the epiglottis, and, to a very limited extent, the skin. The two cases when taken together had, Dr. Bramwell thought, an important bearing upon the pathology of chloroma. That disease was very rare, but it was probably much more common than was usually supposed. Many cases were no doubt missed. A case figured in the *Medical Review of Reviews* for November, 1901, p. 695, and described as a "rapidly-growing tumour of the orbit," was, Dr. Bramwell had no doubt, a case of chloroma. Some years ago a friend in Barbadoes had sent him a photograph of a remarkable case of symmetrical sarcomatous growths of the orbits with exophthalmos which was probably a case of chloroma; it appeared to be merely an exaggeration of a case of chloroma recently published by Rosenblath.[1] It was probable that some of the rare cases of so-termed perforating sarcoma of the skull, of which he had reported a case a few years ago, were cases of chloroma. He had had the advantage in August last of discussing the whole subject of chloroma with

[1] Deutsches Archiv für Klinische Medicin, Band lxxii., Heft 1, 1902.

Professor George Dock, who had made a special study of the disease. Professor Dock agreed with him in thinking that the first case which he (Dr. Bramwell) had described was a case of chloroma. As Dr. Dunlop had told them, chloroma was a very rare disease, some 25 cases only having been recorded up to the present time. In typical cases the characteristic features of chloroma were as follows. 1. The presence of lymphoid deposits in the orbits, temporal fossæ, and periosteum of the bones of the skull, and the symptoms and signs resulting therefrom. In consequence of the lymphoid deposits in the orbits there was usually, but not always, exophthalmos; and often as the result, partly, perhaps, of the pressure on the optic nerve and its vaginal sheath, and partly of the altered blood condition (lymphatic leukæmia and anæmia), hæmorrhages in the retinæ and optic neuritis. Lymphoid infiltrations of the conjunctivæ, which in some cases produced large protruding swellings giving the idea of sarcomatous growths, sometimes occurred. Lymphoid infiltrations of the cornea were also sometimes developed. Firm bilateral swellings in the temporal fossæ were very often present. The periosteal lesions were not confined to, though they were apparently always most marked in, the region of the skull and face. The periosteum of the bones of the vertebral column was often affected. In a recent case (Rosenblath's first case) the spinal column was eroded, the nerve roots and spinal cord were pressed upon, and secondary ascending degeneration in the spinal cord developed. Deafness was very common; it was apparently in some cases due to pressure on the auditory nerve, in others to lesions (involvement) of the middle or internal ear. Facial paralysis, due to pressure on the facial nerve, was sometimes met with. There was in many cases difficulty in breathing through the nose, the result of swelling and infiltration of the nasal passages. The tonsils were often enlarged and infiltrated. The remarkable swelling of the gums, epiglottis, and larynx, which was present in the two cases which he had related, had not, so far as he had been able to find, been hitherto described, but he was much interested to find, when Dr. Dunlop kindly gave him an opportunity of seeing his case during life, that in his case the palate was swollen and infiltrated in exactly the same manner. 2. The green colour of the lesions (lymphoid deposits in the orbits, periosteal lesions, lymphoid deposits in the kidneys, the liver, the spleen, the bone-marrow, &c.). This was a remarkable feature of the disease. In many cases the green discolouration was only noticed after death. But that the green colour, in some cases at least, was not due to post-mortem changes was conclusively shown by the fact that in some of the recorded cases the urine was green during life. As Dr. Dunlop had stated, the exact cause of the green colour was still unknown. In his own case the change in colour which the skin lesions went through during life was suggestive of a blood change, and the marked increase of the green colour which was noticed at the post-mortem examination in the skin lesions in the upper part of the body seemed to be suggestive, in part at least, of a post-mortem (? decomposition) change. The question naturally arose whether in all cases of chloroma the green colour was due to the same cause. It was possible that it might be due to different causes in different cases and that the green tumours were not invariably due to one and the same pathological condition. Further, though this might at first sight seem to be a contradiction in terms, it seemed to him probable that cases of chloroma occurred in which there were no green tumours and no green lesions. He was strongly disposed to think that the green discolourations, though they had hitherto been considered to be essential and characteristic features of the disease, might in some undoubted cases of chloroma be absent. These questions required solution. 3. A profound blood change, characterised by anæmia, cachexia, hæmorrhages into the skin, bleedings from the mucous membranes, especially epistaxis, and petechial extravasations into the retinæ and internal surfaces (epicardium, &c.). The same profound blood change was met with in most cases of acute lymphatic leukæmia, but it was certainly not always present. In the first two cases which he had just described (of chloroma and acute lymphatic leukæmia) there was little or no anæmia and there was no cachexia. The essential blood change in chloroma seemed to be an enormous excess of the lymphocytes and especially of the large lymphocytes in the blood; in short, in cases of chloroma the blood seemed (? always) to present the characteristic features (95 per cent. or more of lymphocytes) which up to the present time were regarded as indicative of one condition only—viz., lymphatic leukæmia. 4. Further, the bone marrow, the spleen, the lymphatic glands, and the organs throughout the body were affected (infiltrated with lymphoid deposits) as in lymphatic leukæmia. In all the recent cases of chloroma which had been examined exhaustively the blood presented the characters of lymphatic leukæmia. In some cases in which it was said that there was no excess of leucocytes the character of the corpuscles had not been ascertained by stained films. Now, the first case which he had related showed that lymphatic leukæmia might be present when there was no excess of leucocytes. The question whether chloroma was a definite and distinct disease or whether it was merely a variety of acute lymphatic leukæmia was a very difficult one to answer—a good deal could be said on both sides. The peculiar location of the lesions to the orbits and skull bones, though they were not of course confined to these parts; the green colour of the tumours; the fact that in some cases the tumours were of cartilaginous consistency; and the fact that in some cases the bones (as in one of Rosenblath's recent cases) were eroded and perforated by the growths, were in favour of sarcoma or lympho-sarcoma rather than of lymphatic leukæmia. But the condition of the blood was highly suggestive of lymphatic leukæmia. The three cases which had been brought before the society that evening seemed to show that no hard-and-fast line could be drawn between acute lymphatic leukæmia and chloroma. Dr. Dunlop's case was a highly typical case of chloroma with all the changes in the blood characteristic of acute lymphatic leukæmia. The case now being considered was a typical case of very acute lymphatic leukæmia with peculiar lesions in the gums, the tonsils, the larynx, and the skin, and the first case seemed to be midway between the two—between Dr. Dunlop's case and Dr. Bramwell's second case. The mouth lesions appeared to be the same in all three cases. The whole question seemed to turn upon the nature and definition of lymphatic leukæmia. Possibly the same condition of blood (95 per cent. or more of the white corpuscles being lymphocytes) might result from more than one pathological condition. But, practically speaking, lymphatic leukæmia and chloroma were the only known diseases in which such a condition of blood was present. Probably more than one disease was included under the term "acute lymphatic leukæmia," or, at all events, different varieties of the disease existed. Certainly different cases of lymphatic leukæmia presented considerable differences in their clinical history and course and in the relative intensity of the lesions found after death in the bone-marrow, the spleen, and the lymphatic glands respectively. In this connexion Dr. Bramwell next briefly described his third case—a case of very acute lymphatic leukæmia which had just occurred in his hospital practice, in which there was comparatively little glandular change, but in which the lesions in the spleen and in the bone-marrow were very marked; this case was very interesting because of a peculiar condition of the kidneys. Both kidneys were very much enlarged and the cortical substance was infiltrated with numerous large hæmorrhages, the intervening substances being pale, exactly of the colour of very anæmic brain tissue; the left kidney weighed 18 ounces and the right kidney weighed 14 ounces. The peculiarity of the condition was that the urine, which was carefully examined on three separate occasions during the last three days of life, was pale and was absolutely free from blood and albumin. At the post-mortem examination the bladder contained 14 ounces of very pale urine, the specific gravity of which was 1012; it was absolutely free from blood and it contained the merest trace of albumin which was perhaps derived from the vesical epithelium. Dr. Bramwell next referred to a case—the fourth case—one of chronic lymphatic leukæmia in which there were enormous glandular swellings throughout the body. Lantern slides illustrative of the condition of the blood, &c., in these cases were shown. In conclusion, Dr. Bramwell stated that the present communication was merely preliminary. It had been impossible in the time placed at his disposal to attempt to discuss the questions exhaustively; all he had attempted to do was to mention the chief clinical and pathological facts of the cases which he had related.

DR. BRAMWELL also showed a case of Infantilism. The condition was very rare and, so far as he had been able to ascertain, was not described, though incidentally referred to, in medical literature. The patient, aged 18 years and 10 months, did not look more than 12 years of age. He was bright and intelligent mentally. There was no suspicion of

sporadic cretinism, of congenital syphilis, rickets, or tubercle. The only apparent cause for the condition was chronic diarrhœa, which had lasted for nine years and which was perhaps due, Dr. Bramwell had suggested, to defective pancreatic secretion. Dr. D. Young, house physician, had by an elaborate investigation, the details of which were communicated to the meeting, proved that the pancreatic secretion was deficient. Under the administration of pancreatic extract the diarrhœa had lessened, the patient had gained half a stone in weight, and had grown nearly half an inch in the course of six weeks. These facts suggested that in this case the arrested bodily development was due to defective pancreatic secretion. The condition of the pancreatic secretion in future cases of infantilism for which there was no apparent cause should be carefully investigated.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens.—Symphysiotomy in Practice.—Diagnostic Help in Gynæcology.

A MEETING of this society was held on Feb. 12th, Dr. JAMES RITCHIE, the President, being in the chair.

Dr. D. BERRY HART showed (1) a large Fibroid removed by supra-vaginal hysterectomy; and (2) a specimen of Transverse Rupture of the Fundus Uteri in a Full-time Pregnancy (the woman was not in labour and the rupture seemed to have taken place spontaneously).

Dr. F. W. N. HAULTAIN showed (1) a Fibroid Uterus affected with Carcinoma of the Body, removed by abdominal operation; (2) a Uterus with Adeno-carcinoma of the Body, with microscopical section, removed by the vaginal route; (3) two Ectopic Gestation Sacs at the third and fourth month respectively, removed from the same patient at different times within a year (the first sac had ruptured and the second was entire); (4) a Uterus with large Calcified Fibromyoma; and (5) a microscopical section from a case of Primary Tuberculosis of the Cervix.

Dr. J. W. BALLANTYNE showed (1) a Cephalometer for ante-natal mensuration; and (2) a Fœtus with Exomphalos and Adhesion of a Hand to the Chest Wall.

Dr. J. HAIG FERGUSON showed a Fibroid Uterus removed during menstruation.

Dr. R. C. BUIST (Dundee) read a paper on Symphysiotomy in Practice. Histories were given of four women, aged from 20 to 25 years. One patient had three labours with the loss of the infants and at her fourth labour had her pelvis permanently enlarged by Frank's method; the fifth labour resulted in an easily managed delivery of large twins. The second patient was rachitic and symphysiotomy was performed at her first and third confinements after forceps alone had failed; the second labour was spontaneous and natural. The third patient had had three difficult labours previously, with one child alive with a permanently dented head; in her fourth confinement symphysiotomy was performed. In the fourth case the patient had her first and second labours at the seventh month; at her third labour symphysiotomy was carried out after forceps had failed. Of the five children born after the operation four were alive and one died during labour owing to delay in sending for medical assistance. The conjugate diagonals varied from 8 to 9·5 centimetres (3¼ to 3¾ inches). In two cases femoral thrombosis occurred during the puerperium. One patient, owing to an accident after the operation, had incontinence of urine, but this was cured by subsequent operation. The delivery after the operation was helped by forceps and the Walcher position. In none of the cases was there any subsequent impairment of gait and all of the patients had been able to do their work at home and two were at their work in the jute-mill within six weeks and three months after the operation respectively. The method followed in the last four operations was the subcutaneous method described by Ayres. Dr. Buist made an incision in the vestibule and passed a director up the front of the symphysis to its upper border; withdrawing the director he inserted a probe-pointed bistoury and cut through the symphysis, beginning at the upper border. The tissues behind were watched and guarded by a sound in the urethra and the finger pressing through the anterior vaginal wall. Sometimes there was difficulty in locating the symphysis and occasionally the osseous surfaces were not straight. Considerable hæmorrhage might occur after the operation and this could be met by packing. The after-treatment was simpler after the subcutaneous than after the open method. The paper was discussed by the PRESIDENT, Dr. HART, and Dr. FERGUSON, and Dr. R. JARDINE and Dr. J. M. MUNRO KERR (Glasgow) gave their experience of the operation.

A paper on Some Remarks on Diagnostic Help in Gynæcology was sent by Professor FEHLING of Strasburg and was read by the Secretary. Owing to the success attending gynæcological operations many operators, especially the younger gynæcologists, attached no great value to a thorough diagnosis. While in many cases a definite diagnosis was not essential to a successful operation, there were many cases in which an accurate diagnosis might assist in the selection of the best operation or in modifying the steps of the procedure. Their aids in diagnosis had been constantly improving. The clinical examination, both vaginal and rectal, was helped by placing the patient in the Trendelenburg position and might be enhanced by putting the patient under chloroform. The use of the uterine sound, traction on the uterus with a volsellum, and filling the bladder or rectum with air or water assisted diagnosis in difficult cases. But after all means had been tried cases occurred in which the diagnosis was not clear, and as an extreme measure a diagnostic laparotomy was carried out. In exploratory laparotomy some operators preferred small incisions sufficient only to admit two fingers, but an examination in the dark did not aid much in the diagnosis and a longer incision was preferable, so that sight might assist touch in the examination. The results were poor and many such explorations through further interference became incomplete operations. Even with careful antiseptic and aseptic precautions exploratory incisions might be followed by peritonitis or sepsis. In malignant cases rapid increase of ascites after the operation might often delay healing of the abdominal wound, and such exploration greatly tended to a fatal issue. Professor Fehling considered that an exploratory puncture with a large-sized hollow needle or aspirator through the vaginal roof was of very great value in determining the nature of the tumour and its contents when it lay near the vagina. The vagina should be carefully prepared for the puncture and the patient should be kept at rest for at least 24 hours afterwards. The fluid obtained should be examined for blood, pus, and serum; also for gonococci or pyogenic germs, and if necessary a culture on agar or in bouillon should be obtained to determine whether the cocci still retained vitality or not. These points would assist in determining the time and method of operation. The chemical examination of the fluid was not of so much value, but it might help to some extent. Thus Pfannenstiel had shown that the pseudo-mucin of the cysto-adenoma of the ovary was distinguished by the fact that boiled with dilute acids it was converted into a reducing agent, a glyco-proteid which reduced copper oxide like sugar in Trommer's test. The results of exploratory puncture in 31 cases were given, and he concluded that the puncture of small tumours, especially those of the adnexa, was a harmless procedure and was useful both for diagnosis and treatment. Exploratory laparotomy should be avoided as far as possible.—Dr. HAULTAIN, Dr. BUIST, and Dr. FERGUSON discussed the paper.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

Presidential Address.—The Inferior Parietal Lobule.—Nerve Endings in the Auditory Tract.—The "Stomach Chamber."—Abdominal and Pelvic Viscera in a case of Advanced Pregnancy.

A MEETING of this section was held on Jan. 31st, Professor D. J. CUNNINGHAM, the President of the section, being in the chair.

The PRESIDENT briefly reviewed the work done by the members of the section during the 19 years of its existence—work which reflected great credit on the section both for thoroughness and originality. It seemed to him to have been marked by three great waves, which he would take the liberty of naming the morphological wave, the cerebral wave, and the visceral wave. One of the first papers produced at the section, and he thought the first printed, was that very excellent contribution of Mr. Abraham on the Frequency with which the Musculus

Sternalis was found in Anencephalous Fœtuses. Throughout Europe it awakened interest, and by that single paper the section at once became an object of interest to anatomists. Discussions throughout the medical schools of the world took place on the subject and the views of the Dublin school were opposed strongly; but he was glad to say that the two papers of Eisler of Berlin and of Wilson of Melbourne supported the views put forward by Mr. Abraham. The cerebral wave was created by the remarkably beautiful exhibition of cerebral photographs prepared by Professor Alexander Fraser. For their general usefulness and beauty of finish they had never been excelled. Professor Fraser had also been engaged on the study of the topography of the sinuses of the cranium and under his hands the cerebral wave attained its highest point. The visceral wave included the splendid work done by Professor J. Symington of Belfast, and that of Professor Fraser, Professor A. Birmingham, and others.

The PRESIDENT (the chair being temporarily occupied by Professor Symington) then read a paper on the Inferior Parietal Lobule. He said that it had become the practice of a considerable number of continental anatomists to form an opinion of the sex, race, intelligence, and capability of the individual from an examination of the inferior portion of the parietal lobe of the cerebrum. He could not accept these views, although they had been supported by Retzius, Guzsman, Hauseman, and Ruge, and, indeed, he had been driven to a diametrically opposite conclusion. In a series of brains specially prepared to show the development of this lobule from those of the fœtus to those of advanced life he could find no reason to suppose that the higher intellectual powers were associated with a larger and more complex gyrated lobule. Professor Cunningham exhibited a series of screen pictures of cerebra in support of his views.—Professor D. J. COFFEY said that he considered the President's demonstrations of the surface anatomy of the inferior parietal convolutions a most interesting supplement to Flechsig's work on the development of association fibres in the same area. How far such an area could be termed a place of intellectual operations in the brain depended very much upon the exact signification to be attached to the term intellectual. Intellect itself, he thought, was a question of capacities not necessarily associated with any area, but deriving the matter through which it manifested its activities from both the primary sense areas and the association centres alike. He thought that the so-called intellectual areas in reality had to do with the conscious functions which were intermediate, so to speak, between primary sense representations in the brain and the higher psychical capacities. The latter had no place representation whatever.—Professor FRASER said that the brain of a lunatic was quite as complicated as that of a mathematician.—Professor SYMINGTON said that, like the President, he was doubtful of the localisation of special intellectual ability in the inferior lobule of the parietal lobe.

Professor COFFEY read a paper on Microscopical Preparations of Certain Nerve-endings in the Auditory Tract. He demonstrated the three typical forms of endings of the cochlear nerve in the pons cerebri, calyces, tree-root endings, and encapsuling fibres. The specimens were stained after the manner of Cajal of Madrid and Wehl of Leipsic.—Professor FRASER and the PRESIDENT discussed the paper.

Professor BIRMINGHAM read a note on the "Stomach Chamber." About two years ago, in a paper contributed to the *Journal of Anatomy*, he introduced the terms "stomach chamber" and "stomach bed." In order to make plain to the section that there were a "stomach chamber" and a "stomach bed" he had brought a specimen hardened *in situ* by formalin and gelatin. The anterior abdominal wall having been removed, the stomach, which was distended and hardened and had been cut free at both extremities, was lifted out, showing a distinct chamber, bounded superiorly by the diaphragm and inferiorly by the small intestines, the pancreas, the upper extremity of the kidney, and the transverse mesocolon. The viscus when distended filled this chamber; when it was in a condition of contraction a portion of the colon pressed up in front of the viscus into the chamber. In the healthy male adult he found that the stomach projected downwards, at an angle of 45°, inwards and forwards. When distended its pyloric extremity tilted upwards and its œsophageal opening was not directly on its lesser curvature but opened on the anterior surface.—Professor SYMINGTON said that he quite agreed with Professor Birmingham that the stomach projected forwards and downwards, but he could not see any advantage in the term "stomach bed" or "stomach chamber."—The PRESIDENT agreed with Professor Birmingham that the titles "stomach bed" and "stomach chamber" were useful and helpful. The transverse mesocolon divided the abdominal cavity into a gastric and an intestinal region.

Dr. T. G. MOORHEAD read notes on the Abdominal and Pelvic Viscera in a case of Advanced Pregnancy. The specimen was hardened *in situ* by the formalin process and photographed. The subject had reached the seventh month of pregnancy, and it was probably the first occasion of such a specimen being photographed for exhibition. The uterus extended well up into the abdomen and inclined to the right side; the left ovary came in contact with the anterior abdominal wall. The uterus was also rotated on its long axis which brought the right ovary in contact with the cæcum. The upper margin of the uterus lay at a point two inches above the symphysis pubis and was overlapped by the transverse colon and the great omentum.—The PRESIDENT, Professor SYMINGTON, Professor FRASER, and Professor BIRMINGHAM congratulated Dr. Moorhead on his unique and splendid specimen.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Dr. Thomas Harris, the President, being in the chair.—Mr. F. A. Southam showed a female, aged 41 years, upon whom Cholecystectomy had been performed eight months previously. For four years she had suffered from attacks of biliary colic, unaccompanied by jaundice, and had frequently passed gall-stones in her motions. As the attacks were becoming very frequent and her health was beginning to suffer an exploratory operation was performed. The gall-bladder, which was found to be enlarged to the size of an orange, contained nearly four ounces of pus and 64 gall-stones. As its walls were thickened and indurated and the cystic duct was completely obliterated it was removed, together with a small portion of the liver substance, to which it was intimately adherent. The patient, who made a good recovery from the operation, had been free from any attacks of pain since its performance and was now in excellent health.—Mr. Southam also mentioned a case of Cholelithotomy where 260 calculi were removed from the gall-bladder of a male, aged 24 years, who had suffered from attacks of biliary colic, accompanied by jaundice, since he was 18 years of age. The patient made a rapid recovery from the operation.—Dr. H. Ashby brought forward a case of Gastro-enteritis in a boy, aged three years. There were persistent vomiting with rapid thready pulse and flattened abdomen, but there was no diarrhœa. Later there were "coffee-ground" vomiting and dark brown stools consisting of altered blood. There was no fever. There were convulsions and tetany before death, which took place on the sixth day. At the post-mortem examination a much-dilated stomach was found; the mucous membrane was markedly injected. The intestines were contracted and intensely hyperæmic, especially about Peyer's patches. The origin was obscure; irritant poisoning and milk- and meat-poisoning could be excluded with fair certainty.—Mr. W. P. Montgomery made a communication on two cases of Epiplopexy (Morison's operation) for Ascites. In the first case, a woman, 50 years of age, had noticed an increasing enlargement of the abdomen for six months. She admitted to a considerable indulgence in beer and spirits. She had been tapped once two months previously. The second patient was a man, 26 years of age, who had suffered from ascites for three years and had been tapped over 40 times. He gave no well-marked history of alcoholism. The diagnosis was chronic peritonitis with cirrhosis. In each case the omentum was fixed in the parietal peritoneum on either side of an incision made in the right semilunar line. It was then tucked up between the liver and the diaphragm, and fixed by a suture to the liver itself. After eight months the first patient remained free from any recurrence of the ascites. The second required tapping less frequently than before operation. An analysis of 38 collected cases was given.—Dr. Yonge showed two patients on whom he had performed Thyrotomy for Malignant Disease of the Larynx six months and five months ago respectively. In neither case was there up to the time of their being exhibited any evidence of recurrence. In the one case an excellent voice had been

regained and in the other the vocal power, although not so good, was sufficient for all practical purposes.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Feb. 12th, Dr. T. Harris, the Vice-President, being in the chair.—Dr. E. F. Trevelyan (Leeds) described the pathology of a very acute case of Meningitis secondary to Facial Cellulitis. The staphylococcus aureus was obtained from a secondary abscess in the body and also from the exudation at the base of the brain. The recorded cases of staphylococcus meningitis were briefly referred to.—Dr. A. E. Finney made a short communication on Myomalacia Cordis and its results.—The Vice-President and Dr. F. C. Moore showed preparations from a case of Chloroma. The patient was a boy, 14 years of age, whose illness commenced with symptoms believed to be those of sciatica. The pain persisted in his left hip, and no further symptoms developed until a month before his death when he showed signs of orbital and intracranial growths. He was admitted to the Manchester Royal Infirmary a fortnight before his death with partial paralysis of the lower and upper extremities, great pain in the left hip, marked exophthalmos of the right side, almost complete deafness, and bilateral facial paralysis. He gradually became weaker and died about 13 weeks from the commencement of any indications of disease. At the necropsy numerous nodular masses of new growth of a grass-green colour were found in connexion with the inner aspect of the dura mater, with the periosteum of the orbits, of the vertebræ, the sacrum, and the iliac bones, and in the kidneys. There was also a diffuse infiltration of the mesenteric lymphatic glands and of the connective tissue of the portal canals in the liver with a similarly coloured tissue. The colour rapidly faded on exposure, in the dark equally as in the light, becoming greyish-green then greyish-yellow. The tumours histologically consisted of a fine fibrous reticulum with capillaries containing closely packed lymphocyte-like cells. The nature of the pigment had not so far been determined.—Dr. W. Walter showed microscopical sections from a case of Primary Epithelioma of the Vagina, in some of which the growth was seen to be of papillomatous origin and in others there was evidence of the epithelium having invaded the neighbouring tissues. The patient from whom the specimens were taken was aged 37 years and was unmarried.—Dr. A. W. W. Lea showed a series of Vaginal Growths, consisting of primary epithelioma, primary sarcoma, papilloma, and fibroma.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A pathological meeting of this society, devoted to a discussion on the Pathology of Tuberculosis, was held on Feb. 14th, Dr. A. G. Barrs, the President, being in the chair.—Dr. E. F. Trevelyan read a short paper on the Tubercle Bacillus. In discussing its morphology he alluded particularly to the clubbed and branching forms. Several acid-fast micro-organisms and some members of the streptothrix group were shown for comparison with the tubercle bacillus. Dr. Trevelyan said that he generally succeeded in getting a rapid growth (often in three or four days) on Heydenised media, especially when potato was added to them. In examining sputum he used a pointed platinum spatula for making the film. If after a careful examination of the sputum in cover-glass preparations a negative result was obtained in a really suspicious case he preferred to employ the inoculation test at once; sedimentation methods had been of no real service to him. A large number of bacteriological specimens, prepared with the assistance of Dr. Ursula Chaplin, were shown in illustration of the various points alluded to.—Dr. S. Long, Mr. P. J. Cammidge, Dr. Maule Smith, Dr. T. Churton, and the President discussed the subject, and Dr. Trevelyan replied.—Dr. F. W. Eurich (Bradford), dealing with the Anatomy of Tuberculosis, divided the tissue changes produced by the bacillus into the proliferative and inflammatory and showed how the manifold appearances of tuberculosis depended upon the relative proportions of these two factors.—Dr. E. O. Croft, in describing a case of Tuberculosis of the Cervix Uteri, said that the disease had developed in the cervical mucous membrane at the external os and had produced a localised growth of a papillary form (tuberculous papillary cervicitis). Sections through these papillæ and the adjoining mucous membrane showed typical tuberculous tissue. The disease was apparently quite localised, the uterus and tubes being normal.—Dr. J. B. Hellier discussed the paper and Dr. Croft replied.—A large number of tuberculous specimens were shown, being arranged in various classes, including the nervous system, the respiratory system, the alimentary system, the genito-urinary system, and the bones and joints. Animal tuberculosis was illustrated from specimens from the cow, pig, monkey, horse, and guinea-pig. A number of microscopic specimens illustrating tuberculous lesions were shown by Dr. Maule Smith, Mr. Cammidge, and Dr. Eurich.

BRITISH ORTHOPÆDIC SOCIETY.—The seventh annual meeting of this society was held on Feb. 15th, Mr. John Poland being in the chair.—The reports of the honorary secretaries and the treasurer showed that the society was in a sound condition.—The following members were elected to the council: Mr. W. Armstrong, Mr. W. E. Bennett, Mr. T. Carwardine, Mr. J. Jackson Clarke, Dr. Percy Lewis, Mr. T. H. Openshaw, Mr. E. Muirhead Little, Mr. H. A. Reeves, and Mr. Noble Smith. Mr. C. R. B. Keetley was re-elected treasurer and Dr. A. F. Blagg and Mr. Chisholm Williams were re-elected honorary secretaries.—An ordinary meeting of the society was then held.—Mr. Chisholm Williams showed a lad, aged 16 years, and a girl, aged 19 years, with Rheumatoid Arthritis of the second, third, and fourth fingers of both hands. He also showed a boy, aged 11 years, with entire Loss of the Power of Pronation and Supination due to congenital fusion of the bones of both forearms just below the bicipital tuberosity; one had been operated on and a false joint had formed just below the point of fusion; pronation and supination were slowly returning.—Mr. Jackson Clarke, Mr William Thomas, and Mr. Poland commented upon the cases.—Mr. Jackson Clarke showed a case and a skiagram of Fracture-Dislocation of the Head of the Radius in a woman, aged 28 years. He had operated and had removed the fractured part with excellent results.—Mr. Thomas read a paper on Excision of the Knee in Children.—Mr. Jackson Clarke read a paper on the Prevention and Treatment of Fracture Deformities.—Owing to the lateness of the hour the discussion was adjourned to the next meeting.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The fourth meeting of the forty-sixth session of this society was held on Feb. 7th, Dr. Thomas C. Meggison, the President, being in the chair.—Dr. R. E. Scholefield read a paper on Some Cases of Feigned or Functional Disease.—The paper was discussed and cases were related by Dr. F. S. Toogood, Mr. E. Clarke, Dr. L. Ll. B. Williams, Mr. R. V. Donnellan, Dr. J. H. Keay, Dr. J. P. Henry, and Staff-Surgeon W. W. Pryn, R.N.

Reviews and Notices of Books.

Lessons on Diseases of the Nervous System, 1897-98. By Professor F. RAYMOND. Fourth series. Paris: Octave Doin. With 59 Drawings and two Coloured Plates. Pp. 606. Price 15 francs.

THIS work consists of 18 chapters, most of them devoted to various special forms of disease involving the brain and the spinal cord. These lectures, delivered at the Salpétrière Hospital, form very complete clinical records of some of the most interesting and difficult subjects that engage the attention of neurologists, and for many reasons they deserve study. Written in the most explicit French manner, expressed tersely and elegantly, they show a profound knowledge of the subject and an admirable capacity for analysis, whilst in clearness and dignity of style they remind us more of the classical essays of Todd, Stokes, and Watson, than of any other lectures in this country to which we can refer. For thoroughness and up-to-date knowledge, for acuteness in differential diagnosis, and for detailed description of symptoms we have nothing but praise, and the work would probably repay translation. For special prominence we select the first chapter, on Two Cases of Tumour in the Zone of Rolando; the third chapter, on Scleroses *en Plaques* in a Child, aged six years; the thirteenth chapter, on the Different Varieties of Progressive Muscular

Atrophy; the seventeenth chapter, on Tabes and Syringomyelia; the twentieth chapter, on Affections of the Terminal Cone—i.e., the lowest part of the spinal cord; the twenty-second chapter, on Polyneuritis of the Lower Limbs or Anterior Poliomyelitis; the twenty-seventh chapter, on Juvenile General Paralysis; and the thirtieth chapter, on Infantile and Other Forms of Myxœdema. The other lectures are also excellent, and, indeed, there is scarcely a page of the book that is not replete with original remarks and pregnant with suggestions. In all cases the chapters begin with a summary, then follow a description of the case under consideration, the differential diagnosis, and finally the prognosis and treatment.

The reader naturally thinks of Charcot and the work which he carried out from 1862 at this hospital. He has found a worthy successor in Professor F. Raymond, who has most laboriously carried on since Charcot's retirement the course of study so advantageously begun. Of course, these lectures are not for all time, but they do give to the busy practitioner the opportunity of reference to what is probably the most complete history and symptomatology of prominent nervous cases to be met with in practice, according to our present enlightenment. What makes for the completeness of the accounts is that the assistance of other experts has been called in to ascertain with accuracy such particulars as the determination of impaired sensory skin areas, the results of applied electricity and galvanism, the performance of surgical operations where indicated, &c.; in fact, each case is a complete *résumé* of expert evidence, consolidated into a harmonious whole by the clear remarks of the professor. Under the names of Friedreich's disease, of Little's disease, of Thomsen's disease, and of symptoms such as those of Romberg, Argyll-Robertson, &c., the general reader is apt to be confused, but here he will not only find the names used but also explained. No work on neurology would be complete which did not include hysteria, and in its relations with different affections of the nervous system we find chapters on myoclonia and hystero-traumatism, the latter involving a discussion on the nature of "railway spine" as first described in this country by Erichsen and adversely criticised by Charcot, Thomsen, and Oppenheim. The theory sustained by Strümpell is that there exists a central traumatic neurosis which is clinically confounded with hysteria and neurasthenia, but is rather varied in its shades and degrees and is only grafted upon a soil predisposed to it. With this theory Professor Raymond agrees. They are not afraid of loss of blood in France. In one case a patient (page 12) was operated upon for a cerebral tumour. On the first occasion he lost 50 ounces of blood; the next operation cost about 66 ounces of blood; on the third occasion the hæmorrhage was "formidable," but a tumour of the size of half an orange was removed by M. Chipault. On page 528 is found a useful *résumé* of the anatomy of the cortex of the brain with special reference to the system of tangential and radiating fibres, the alteration in which is important in the lesions met with in general paralysis. Each lecture is so bristling with interesting deductions that it is not needful to do more than to insist upon the instruction to be derived from the perusal of any part of the book.

Proceedings of the Society for Psychical Research. Part XLI. Vol. XVI. October, 1891. London: Kegan Paul, Trench, Trübner, and Co. Pp. 649. Price 10*s*.

THIS volume is entirely devoted to a record of observations on certain trance-phenomena and comments founded upon them by Professor James Harvey Hyslop, Ph.D. It is divided into two parts. The latter half of the volume, roughly speaking (pp. 303 to 649), is made up of appendices containing a detailed report of the "sittings" which the writer had with a Mrs. Piper and on which he founded his papers. The record of the sittings is preceded by a brief preliminary note and is followed by Experiments on the Identification of Personality (Appendix IV.), Experiments in Communication through a Tube (Appendix V.), Experiments in Hypnosis (Appendix VI.), and quotations bearing on the mental condition of the communicator while communicating (Appendix VII.).

The subject of trance and the allied mental phenomena are of such interest to the medical profession and to the public that any genuine attempt to throw new light on them must be regarded with consideration. The whole subject of what is now called hypnotism has been of more or less general interest ever since the time of Mesmer, and there can be no doubt that "mesmerism" would have found a recognised place in surgical practice as an anæsthetic had not the use of chloroform been discovered just when it was. It unfortunately happened about this date that scientific problems of the greatest complexity were investigated by self-confident people of extraordinary credulity, and there were not wanting at that time a number of professional charlatans who reaped a rich pecuniary benefit from their *séances*. Of this period Carpenter in his "Mental Physiology" gave a good general account which can still be studied with profit. After the exposures of some flagrant cases of spiritualistic imposition, medical men, as a rule, thought it wiser to leave the whole subject severely alone. But the number and interest of the psychic problems which forced themselves upon people who would not shut their eyes to them made it impossible that they should be shelved entirely. The existence of a succession of peripatetic mesmerists who induced phenomena which could not be entirely explained as fraudulent served to keep these things before the public in the first place, and it therefore happened as a result of the general interest excited in the subject that medical men were often compelled to face scientific facts about which they had not been instructed in the course of their medical education. The Society for Psychical Research was inaugurated to investigate phenomena which had for so long, it considered, been unduly neglected and it has done a considerable amount of work. Some of the most energetic workers are now lost to it, and amongst them must be mentioned Professor Henry Sidgwick, Mr. Edmund Gurney, Mr. F. W. H. Myers, and Dr. A. T. Myers. The society, however, can still boast of having on its list of vice-presidents and council some few men of more than European reputation—for example, Mr. A. J. Balfour and Lord Rayleigh. The council has decided that "the responsibility for both the facts and the reasonings in papers published in the Proceedings rests entirely with their authors." Still, it must directly or indirectly rest with the council as to what it publishes. The names of the members of the council are printed on the cover of the Proceedings, and it must be held that they, or some persons acting for them, have decided that the book before us was worthy of being printed at the expense of the society. As to whether such an opinion is or is not well founded, we will not presume to say; it will be better to give a quotation of a report of one of the sittings in which Professor J. H. Hyslop took part, and to leave our readers to judge whether or not it was worth while to start "telepathic" or "spiritualistic" hypotheses to explain such like texts. On visiting Mrs. Piper the investigator, it should be said, had provided himself with a black mask "such as is used at masked balls," and "under this concealment" he was introduced to the lady, bowed without uttering a sound, and did not speak till she had gone into a trance, but he studied Mrs. Piper's reception of him. When she saw the mask she "broke into a laugh," and the laugh bore every external trace of sincerity. Mrs.

Piper, "after dusting some articles in the room ..... sat down upon her chair for the trance." Pillows had been placed in front of her for her head to lie upon "while entranced." The investigator closely watched the trance coming on. After an interval of quiescence he noticed a few slight jerks of the head and some twitching of the right eyebrow, "Mrs. P. picking the while at her finger nails." Afterwards she leant forward on the pillows, closed her eyes, rubbed them, &c., and later "returned to picking her finger-nails." At a later period the expression of her face changed and finally "she passed easily without a struggle into the trance." Then she wrote as follows: "Goodmorrow, friend of earth. We see old friend and we welcome thee here. We see all that thou hast done since we met thee last and we are pleased with all that is coming to thee." There are pages of trance literature, of which the above is the opening. That brief citation may suffice. The investigator's interpretation of the trance-phenomena the curious reader may be confidently left to discover for himself should he think fit. It would not be kind to spoil his pleasure by discussing it, and it need only be said in this connexion that the work is most seriously undertaken. There was one matter on which information would have been welcome. It is recorded more than once that Mrs. Piper picked her finger-nails, and we were led to hope that we might have learned something more of the present situation—or, in deference to Professor Hyslop, we will say the present "location"—of that "peck of pickled pepper" the mystery of which is connected with the memory of Mr. Peter Piper.

Tumours, Innocent and Malignant: their Clinical Features and Appropriate Treatment. By J. BLAND-SUTTON, F.R.C.S. Eng., Surgeon to the Chelsea Hospital for Women; Assistant Surgeon to the Middlesex Hospital, London. New Edition, with over 300 Engravings. London: Cassell and Co. 1901. Pp. 570. Price 21*s.*

THE very remarkable reception which was accorded to this work on its first appearance must be in chief part attributed to the novel method in which the subject was treated. The frequent appeals to comparative pathology threw a light upon many obscure problems and the whole arrangement of the subject showed that the volume proceeded from the pen of an original thinker and one well acquainted with pathology. Many of the ideas were new and no small number of them at once met with a wide acceptance, though others have had considerable doubt cast upon them. We reviewed so fully the first edition of this work that but little remains to be said of this second edition. We may perhaps point out that the histological structure of growths is not very fully dealt with although it is frequently referred to. Into the difficult question of the causes of malignant tumours the author does not venture to enter; he tells us "they are unknown." This is doubtlessly true, but of recent years so much has been done in the investigation of this subject that we should have liked to have had Mr. Bland-Sutton's opinion of the present position of our knowledge. The references to the sources from which the author has drawn his materials are very numerous, and these are especially useful to those who wish to examine further into any of the many matters treated here. Very useful, also, are the two indexes, one containing the organs and the other the tumours.

We should like to ask Mr. Bland-Sutton what authority he has for saying that compact osteomata, such as those in the frontal sinus or on the vertex of the skull, are capped with cartilage. He says that compact osteomata may occur on "almost any part of the skeleton." We believe that in this account the author is confusing two entirely distinct tumours. It is true that on the bones of the limbs and even on the skull growths may occur which consist of compact bone and are capped with cartilage by which they grow. These, no doubt, deserve the name of "compact osteomata," but there are other tumours chiefly affecting the frontal, parietal, and temporal bones, composed entirely of a much harder and denser form of bone. These are always sessile and never at any period of their growth contain any cartilage. These true "ivory" osteomata should certainly be distinguished from the ossified chondromata which consist of compact bone.

Recent Object-lessons in Penal Science. With a Bibliographical Introduction. By A. R. WHITEWAY, M.A., Barrister-at-law, Corresponding Member of the Academy of Legislation of Toulouse. Third Series. London: Swan Sonnenschein and Co., Limited. 1902. Pp. 216. Price 3*s.* 6*d.* net.

MR. WHITEWAY in a brief preface ingenuously informs us that chapters written originally for magazines and reviews do not lend themselves over-kindly to revision for publication in book form—a fact which in any case would have been discovered by those who perused his work with any care, for there is repetition and even inconsistency, real or apparent, in the small volume before us which careful revision or re-writing would have prevented. A book the chapters of which are disconnected essays on kindred or identical topics is apt to be confusing and does not easily lead to a definite conclusion or excite the interest that its subject merits. The conclusion at which Mr. Whiteway appears to have arrived is that England is behind America, France, Italy, and some other nations in the interest which it takes in the welfare of its criminals, but he does not, perhaps from lack of space, go so far as to satisfy us either that the criminal is, as a rule, better treated by the country that is most prolific in "penologists," or that in the country where the "penologist's" experiments have the widest and most varied scope crime is diminished and criminals are reformed into citizens to an extent without parallel elsewhere. In addition, Mr. Whiteway does not consider that the Prisons Act of 1898 has taken us far enough. He wishes to see wider distinctions made between criminals, so that our prisons may be to a large extent compulsory hospitals for moral cripples confined in them by indeterminate sentences—sentences, that is, varying in length in accordance with the time occupied by the moral cure. That more can be done in the direction indicated than is done under our present conditions is undeniable, nor is it to be gainsaid that in many cases it might be done successfully. The difficulty, however, of diagnosing moral disease and establishing moral cures upon the scale apparently contemplated by Mr. Whiteway is, perhaps, greater than he would be prepared to admit. Meanwhile the recent Prisons Act already referred to, if carried out in a liberal spirit and with a sufficient expenditure, may with the help of prisoners' aid associations take us some way in the right direction, while improved conditions of social life for the poorer classes are more likely to diminish crime by prevention than moral hospitals can ever hope to do by cure.

Those who are not aware of the extent to which penologists differ from one another will do well to turn from Mr. Whiteway's remarks upon the American penal institution known as Elmira to the work on "Penological and Preventive Principles" published by Mr. Tallack, secretary of the Howard Association. There they will find Elmira with its Turkish baths and massage dealt with under a chapter headed "The Social Crime of Cruel Laxity." A further study of literature of this class will cause them to hesitate to endorse Mr. Whiteway's aspiration that all judges and magistrates should be penologists. Such judges and magistrates might hold views varying between the desire to punish garotters by six months' imprisonment with 12 strokes of the "cat" every other month, and the wish to see

every convict contemplating photographs of his relations in his cell, both of which extremes of penology are combined in the system suggested by Mr. Whiteway. At the same time, his essays are not uninteresting, and, if they tend to stimulate thought and action upon what is really an important subject, will not be without usefulness. Their effect, however, would have been assisted if their author could have cultivated a terser and more concentrated style; moreover, he might have revised his proofs more carefully.

Medical Diagnosis, with Special Reference to Practical Medicine. By J. M. DA COSTA, M.D., LL.D., Physician to the Pennsylvania Hospital. Ninth edition, revised. London: Smith, Elder, and Co. 1901. Pp. 966. Price 24*s.*

A WORK which has reached the ninth edition requires but few words from the reviewer as to its object and scope. Suffice it then to say that the aim of the author has been to furnish advanced students and young graduates of medicine with a guide that might be of service to them in their endeavours to discriminate disease. He has sought to offer to those members of the profession who are about to enter on its practical duties a book on diagnosis of an essentially practical character, one neither so meagre in detail as to be next to useless when they encounter the manifold and varying features of disease, nor so overladen with unnecessary detail as to be unwieldy and lacking in precise and readily applicable knowledge. In these endeavours Dr. Da Costa has admirably succeeded. In plain and precise language he describes the various symptoms and signs which may be met with in the examination of patients and the conclusions which may be drawn from them. Physical signs can only really be learned and studied at the bedside or in the out-patient room; and not only must these signs be recognised but they must be carefully interpreted. It is in this latter direction more especially that a text-book of the nature of the one now under consideration is of value. The student should first examine patients under the direction of the physician and he may then turn to his books for a full consideration of the meaning of the physical signs which he has detected or which have been pointed out to him.

The present edition has been brought fully up to date, although there are still to be found certain statements which should have been omitted as having been disproved or rendered so doubtful as to make their repetition misleading, such, for instance, as that appendicitis may be caused by "cherry-stones." A large amount of new matter has necessarily been incorporated in this edition, especially in the chapters on the Diseases of the Stomach, on the Blood, and on Fevers. The most important advances in bacteriology have also been inserted under the headings of the various diseases concerned. The numerous illustrations considerably add to the value of the book and a very full and elaborate index greatly facilitates reference.

The Criminal Mind. Translated from the French of Dr. MAURICE DE FLEURY. London: Downey and Co. 1900. Demy 8vo. Pp. 196. Price 3*s.* 6*d.*

THIS is a translation from a popular account of the criminal as a subject for psychological and social study, written by Dr. Maurice de Fleury who states in the introduction that his object is to present a *résumé* of the most recent and clearly established ideas on the subject, the acceptance of which is calculated to modify current and popular ideas upon crime, the criminal, and penal legislation. The author starts from the scientific doctrine of determinism as opposed to the metaphysical (and legal) view of free will, and incidentally points out how the craving of the public for sensationalism has led newspapers generally to magnify or to distort criminal deeds in several notorious instances. The attitude of the public is thus changed into one of vengeful resentment rather than of judicial fair-mindedness to the accused and is liable to ignore the claims of justice. The crowd is readily provoked to brutality and to blind passion.

After a brief anatomical sketch of the brain, with illustrative diagrams of its cortical "centres," memory and consciousness are touched upon, and the "personality" is shown to be an aggregate of sensory centres inter-connected with, and reciprocally influencing, one another. The organic basis of emotions is emphasised, and looking upon education and bringing up as counter-agents to strong hereditary propensities, the author claims that the human organism may be capable of varying degrees of ethical and intellectual development. The true or natural criminal, it is argued, experiences little remorse because he is mentally defective. The habitual criminal, also, as Dr. de Fleury points out, often shows evidences of neurasthenia and incapacity for steady work and frequently is the bearer of a neurotic taint, and is more suitable for the hospital or asylum than for the prison. Regarding prophylaxis, Dr. de Fleury urges the need for dealing with such factors as overcrowding, slum life, and intemperance which are agencies in the production of criminality. Education may do much to reform both the *gamin* of the boulevard and the Hooligan of the slum. Philanthropic societies exist in many countries to carry out these ideas of reform and rescue. In these directions the outlook is hopeful.

The book is clearly and popularly written and, though a little diffuse in style, may be recommended as a helpful introduction to the subject, especially for lay readers.

"Prosperous" British India: a Revelation from Official Records. By WILLIAM DIGBY, C.I.E. London: T. Fisher Unwin. 1901. Pp. 661. Price 12*s.* 6*d.*

THIS very elaborate work, the preparation of which must have entailed an enormous amount of labour on the part of its author, is one which scarcely falls within the province of a medical journalist to review. It is due, however, to the author's labours and earnestness of purpose that we should state our impressions. *If* the pessimistic picture which the author paints of India and of the results of our government of that country be true, if our rule has been attended with all the evils depicted and has only been productive of such an increasing impoverishment and misery of the people as is represented, it is certainly time to set about some inquiry into the facts with a view to remove the delusion under which the statesmen and people of this country are labouring and to take some measures which may lead to the amelioration of the condition of many millions of British subjects. That India has an enormous population (miserably poor for the most part), and that it has of late years been terribly tried by plague, pestilence, and famine, there is no doubt; but are all the alleged facts set forth in the volume before us to be taken as established and, if so, have they been brought about by, and been attributable to, our misrule? That, as it seems to us, is the issue, and it amounts to a very big indictment.

The author, as he confesses, writes "impassionately from a full heart," but also, he adds, from an "equally full mind." At page 64, after quoting an eloquent speech of Macaulay made some 70 years ago, on what should be the aim of our administration of India, the author alleges that the scheme of the upliftment of India as set forth by Macaulay no longer arouses interest among so humane a profession as THE LANCET represents. It is not, we should say, so much from any lack of interest in the well-being of the natives of India on the part of anybody as from want of any practical knowledge of how to give effect to it. In other portions of the

volume Mr. Digby refers to some famine statistics furnished by our Indian correspondent and published in this journal.

After looking over some 640 pages of what may be termed destructive criticism we turned to that section of the book devoted to "The Remedy," but we confess to a feeling of disappointment at finding that it consists of three pages to the effect that the statement of the evil is, for the moment, enough and that any consideration of the remedies is postponed until some agreement is arrived at as to whether any need for remedy exists. Recognising the time and labour which must have been expended in the compilation of this work we cannot doubt the author's earnestness, but we should like to know how he proposes to deal with the alleged evils. After all that has been said and written about Indian finance and the causes of distress in India there are matters connected with the climate and soil, over-population, and the habits, customs, and traditions of the people that are quite beyond our control, but which have, nevertheless, always to be borne in mind and taken into account.

LIBRARY TABLE.

Outlines of Anatomy. By EDMUND W. HOLMES, M.D., Demonstrator of Anatomy, University of Pennsylvania, 1892–1901. Lancaster, Pa.: The New Era Printing Co. 1902. Pp. 185.—This unassuming little book is simply a collection of notes for the student as to what to do in the dissecting-room. It should be found of great value, and we quite agree with Dr. Holmes in his remark in the introduction that "wet specimens and models should be largely used in the early days of the session for the novice." Anatomy as usually taught is singularly uninteresting, and we do not think that the reason for anatomical facts is sufficiently pointed out to the beginner. The average student, for instance, who is beginning the study of anatomy does not know, or possibly does not think, why a limb should have bones, why the bones should have muscles, why the muscles should be supplied with nerves and arteries and veins, and so on. If this is explained to him first on a wet specimen before he begins to dissect he will, at all events, have an idea of what he is going to look for.

The Rontgen Rays in Medical Work. By DAVID WALSH, M.D. Edin. Third edition. London: Baillière, Tindall, and Cox. 1902. Pp. 316. Price 12*s.* 6*d.*—This is the third edition of Dr. Walsh's valuable book; it exhibits one new feature, in that the introductory portion—namely, that upon apparatus and methods—has been re-written by Dr. Lewis Jones. The medical and surgical applications of the rays are described with great care and by means of an appendix the subject has been brought up to date. There are plenty of illustrations which are admirably reproduced. Altogether the book is an excellent treatise upon what is so far known of a comparatively modern development of natural forces.

Thoreau: His Life and Aims. By H. A. PAGE. A new edition. London: Chatto and Windus. 1901. Pp. 271. Price 2*s.* 6*d.*—We cannot say that a perusal of this book gives us the information which we should expect from its title. Mr. Page is evidently a lover of Thoreau, but his book consists of little more than excerpts from "Walden," to which work we should prefer to refer anyone who is anxious to know what manner of man was Thoreau. Shortly, we may say that he was a natural philosopher with a good deal of mysticism in his nature. He was bored by his fellow creatures and being able to get away from them he squatted in the Massachusetts woods and built him a house where, to use a phrase of Kipling, he sat down and let the wild things run over him. His experiences are recorded in "Walden," a book which is not read so much as it should be.

Rough Notes on Remedies. By WILLIAM MURRAY, M.D. Durh., F.R.C.P. Lond. London: H. K. Lewis. 1901. Pp. 176. Price 4*s.*—We need do no more than recall to our readers the main points in Dr. Murray's excellent little book. The chapters upon Belladonna, Calomel, Old Liqueur Brandy, and Mercury in Heart Disease may be read over and over again with delight and profit. This, the fourth, edition contains an addition in the shape of a chapter upon Rothbury as a Health Resort. Rothbury is a little-known village in the valley of Coquet. It lies in a most interesting district and the jaded town-dweller could scarcely do better than go there. It is, of course, not suited for every case of disease, the air being too strong. But for a holiday it is an ideal place, and apart from its own interests the neighbouring places, such as Belsay, Elsdon, and Scots Gap, are full of "objects of interest," as guide-books say. Dr. Murray has done well to call attention to Rothbury, but we hope that his advocacy will not be the means of introducing there that offensive person, the speculative builder.

Official Year-book of Scientific and Learned Societies of Great Britain and Ireland. London: Charles Griffin and Co., Limited. 1901. Pp. 347. Price 7*s.* 6*d.*—This useful compilation gives lists of papers read from January, 1900, to June, 1901, before societies engaged in fourteen departments of research, besides information as to the meetings, membership, officers, and publications of the various societies mentioned. It is a veritable "Whitaker" of scientific societies.

The Principles of Hygiene. By D. H. BERGEY, A.M., M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. 1901. Philadelphia and London: W. B. Saunders and Co. Pp. 495. Illustrated. Price 13*s.*—This book deals with the principles underlying modern practices in the department of public health and will be found suitable for the needs of medical officers of health and those interested in public health, engineering, and architecture. It deals with the chemistry of hygiene in general—with personal, military, naval, industrial, and school hygiene. There are good chapters devoted to Quarantine according to the Laws of the United States of America, to the Vital Causes of Disease, to Disinfection, and to Statistics bearing on the Census, the Birth-rate, and the Death-rate. The book is not suitable for the needs of those students in our British Universities who are preparing for diplomas in public health, and is not in the least likely to take the place of, or to be preferred to, the excellent text-books at present in use. At the same time, it is written in an able and interesting manner and is one which may be kept on the library bookshelf for reference. Several of the subjects are treated in a somewhat novel manner and the whole work bears evidence of careful preparation and a good deal of deep thought and research. In the United States a Bill is passing through Congress which when enacted will make the employment of the metric system of weights and measures compulsory in all Government departments. The metric system has, therefore, been used throughout in this work except in quotations. What few illustrations there are in the book are well executed, though far from being original drawings. On the whole, the work deserves favourable notice and the new ideas are welcome.

Natal Medical, Dental, and Pharmacy Registers, 1900. Pietermaritzburg: P. E. Davis and Sons. Pp. 80.—We have received the official registers of the Natal medical and dental professions, to which is also appended a list of the chemists and druggists admitted to practise in the Colony of Natal up to the date of July, 1901. It may be noticed also that the registers of medical practitioners and dentists are verified up to July 1st, 1901, although the publication is dated 1900. It is becoming of increasing importance to the medical profession at home that colonial registers should be carefully and accurately kept; the medical profession, like all other sections of the British Empire, is

recognising the advantages of closer inter-communication with the colonies, for which purpose authoritative lists of the medical men in the various principalities and dependencies of our empire are necessary.

Where to Buy: A Guide to the Professions and Business Houses. By C. M. KNOWLES. London: Simpkin, Marshall, Hamilton, Kent and Co., Limited. 1902. Pp. 192. Price 3*s.* 6*d.*—This silly little book purports on the title-page to be "a guide to the professions and business houses, showing what are their specialities and where all goods may be bought to the best advantage, with interesting notes." We have not found that it fulfils the author's promises. The omissions frequently are flagrant, the contents not seldom are incorrect, and the notes are dull or ridiculous. Under the heading "Professional and Educational" six unfortunate members of the medical profession are pilloried as eminent people in such company as Sandow "the patentee of a dumb-bell," and John D'Auban who "teaches ladies' skirt and fancy dancing." They are Sir William Broadbent, who is described as "Censor to the Royal College of Physicians"; Sir Francis Laking, who is stated to be "House Physician to St. George's Hospital"; Dr. W. A. Wills, of whom it is said that he was once "House Surgeon to Brompton Hospital"; Dr. J. Little, who "pays income-tax on £10,000 a year"; the late Sir William Mac Cormac; and Mrs. Scharlieb. A cursory glance through the book leads us to the belief that the rest of the information is of about equal value. Of hospitals, only three of the large general hospitals of London are mentioned in this professional guide, and, oddly enough, they are arranged in a sub-class under the heading "Where to Live," which includes the Athenæum Club, the Savoy Restaurant, the Piccadilly branch of the Aerated Bread Company, Limited, and Broughton Hall, Staffordshire. Under the head of "Literary" we learn that Mr. Waldroff (*sic*) Astor is rich, that Sir William Ingram owns a very fast dog, and that Mrs. Humphry Ward, author of "Manners for Men," writes "Girls' Gossip" under the *nom de plume* of "Madge." These, we presume, are examples of the "interesting notes." What conceivable purpose can such a book serve?

Clinical Lectures on the Various Forms of Intra-abdominal Suppuration. By A. H. TUBBY, M.S. Lond., F.R.C.S. Eng., Surgeon to Westminster Hospital and Senior Surgeon to the Evelina Hospital for Children. London: The Medical Publishing Company, Limited. 1901. Pp. 100. Price 3*s.* 6*d.*—These lectures were delivered to the students of the Westminster Hospital Medical School and have already appeared in the *Clinical Journal*. When we remember that at least two-thirds of the cases of abdominal suppuration are connected with inflammation of the vermiform appendix we need not be surprised that four out of the seven lectures contained in this book are concerned with appendicitis. The subject is treated very fully and carefully, but the account is very readable. The most difficult point to decide when a diagnosis of appendicitis has been made is when to operate. Mr. Tubby comes to the following conclusions: (1) if operation is necessary the sooner it is done the better and the greater are the chances of recovery; and (2) the basis of the decision should be the character of the attack and not the duration of the illness. Sub-diaphragmatic abscess is often a very perplexing condition and the chapter devoted to it should prove useful to those who are unacquainted with this variety of abdominal suppuration.

The Sanitation of British Troops in India. By E. CARRICK FREEMAN, Major, R.A.M.C. Second edition, revised and enlarged. London: Rebman, Limited. 1901. Pp. 127. Price 2*s.* 6*d.*—A second edition of this little book having been called for the text has been revised and two appendices added—one relating to malaria and the other embodying some lessons gained from South African experience. It may be succinctly described as giving much useful elementary information about the systems and methods of procedure followed in India and how to turn them to the best account. As regards the seasonal prevalence of enteric fever we were under the impression that according to statistical evidence the periods of increasing prevalence of this fever were shortly before and after the rainy season. The author tells us that Mr. Ghadialli, Professor Hankin's assistant, claims to have discovered a micrococcus which has an inhibitive influence on the enteric fever bacillus. Further experiment is, however, required in the matter, although it is stated to have given good results at Lucknow when introduced into an infected well. It would be of interest to learn further particulars in regard to this micrococcus. The new chapters on Malaria—briefly outlining the modern theory and views—and on Active Service (South Africa)—setting forth some points bearing on the sanitation of troops in the field—are additions which have been called for by the progress of events. The work contains much information shortly put which is likely to prove serviceable to medical officers newly arrived in India.

Use-inheritance, Illustrated by the Direction of Hair on the Bodies of Animals. By WALTER KIDD, M.D. Lond., F.Z.S. London: Adam and Charles Black. 1901. Pp. 47. Price 2*s.* 6*d.*—This is an attempt to prove the inheritance of acquired characters from observations on the direction of the hairs on the bodies of animals and man. It does not deal at all with the general inclination of the hair, for "whether the hair should slope from the cephalic to the caudal end of the trunk of an animal or the reverse ..... is of extreme importance to the well-being and perhaps safety of the animal," and will therefore be determined by natural selection. It deals with the local variations of the general inclination of the hair, and the author considers that these local "whorls" of hair are produced chiefly by the action of muscles. He shows that many of them are peculiar to individual species and that they vary greatly in different individuals and therefore he claims that selection is incompetent to produce them. The work is of interest and is based on very careful observation of a large number of facts. Dr. Kidd's point cannot, however, be considered proved. Experimental evidence would be of very much greater value. Can the author modify the direction of the "hair-flow" in an animal so that it may be transmitted to its descendants? Along this line probably lies the proof of the transmission of acquired characters, if, indeed, they ever are transmitted. Still, the little work should be read by those interested in the problems of inheritance.

JOURNALS AND MAGAZINES.

The Journal of Hygiene. Vol. II., No. 1. January, 1902. Cambridge: University Press. Price 5*s.* net.—Dr. T. E. Hayward, the medical officer of health of Haydock, Lancashire, contributes to this number of the journal a very helpful and suggestive paper on the Construction and Use of Life-tables from a Public Health Point of View. The publication of this article at the present time is very opportune seeing that the recent census figures will soon be available and that medical officers of health will hence be glad of assistance in life-table construction. Dr. Hayward first describes the construction of a complete, or what is technically known as an "extended," life-table, and he then points out the uses which may be made of such a table. Finally, he shows that by a modification of the late Dr. Farr's "short" method it is possible to reach results "which are practically identical with those worked out by the much more laborious extended method." We commend Dr. Hayward's article to all those who are contemplating the construction of life-tables for their

districts. Dr. Arthur Stanley, medical officer of health of Shanghai, furnishes some interesting notes on an Outbreak of Cattle-plague and of its control by the method devised by Professor Koch of injecting small quantities of the gall from an animal already dead from the disease into the cattle of an invaded herd. The results in the outbreak in question were eminently satisfactory, and the method possesses the advantage that the reaction produced by the injection of the gall has no disturbing influence upon the secretion of milk, a fact which will commend the practice to dairy-farmers and others. The Geographical Distribution of Anopheles and of Malarial Fevers in Upper Palestine is the subject of a communication by Dr. John Cropper. He found that malaria prevailed wherever anopheles represented the majority of the mosquitoes present in native dwellings, that the disease occurred mainly among children, and that it was absent or occurred in a sporadic form only in places where anopheles was not found. The study of the Structures and Biology of Anopheles is carried on in the current number of the journal by Dr. George Nuttall and Mr. Arthur Shipley, and many very interesting and instructive facts are brought forward. This is especially the case with regard to the musical appreciation of anopheles. Not only is it attracted by certain musical sounds, but the note produced by certain electrical vibrations has apparently a peculiar fascination for the males who seem to recognise therein the female insects. The volume under notice concludes with a paper by Dr. E. W. Ainley Walker on the Protective Substances of Immune Sera in which he discusses in the light of his own experimental work some of the recent developments of Ehrlich's theories.

New Inventions.

AN IMPROVED FORM OF VACCINATOR.

MESSRS. DOWN BROTHERS have at my suggestion made an improved form of vaccinator. Hitherto the Cooper-Rose has been one of the most popular in use, but the chief objection to it—the point, i.e., which the Local Government Board inspectors invariably find fault with—is the inablity thoroughly to asepticise the cap, where some material for microbic infection is bound to remain. Moreover, not being able thoroughly to cleanse the cap rust is apt to form, thereby preventing the needles from protruding through properly. To obviate these difficulties Messrs. Down Brothers have manufactured a cap which can be opened at once and the interior made thoroughly aseptic and dried, closing up again tightly, and thus fulfilling the requirements of a thoroughly aseptic vaccinator

MONTAGU H. C. PALMER,
M.R.C.S. Eng., L.R.C.P. Lond.
Newbury.

A SELF-LOOPING NASAL POLYPUS SNARE.

MESSRS. MAYER and MELTZER have recently made for me a snare that I have found very useful. It consists of a Krause's snare with a Y-shaped end-piece fitted; the two upper ends of the Y are joined by a curved surface and the polypus is caught between the wire and this surface. The loop is tightened in the usual way by approximating the finger-plates. By simply separating the finger-plates not only does the polypus drop off but the loop is re-made without any of the usual fingering. With this instrument polypus after polypus can be snared without once taking one's fingers from the finger-plates, without any assistant preparing loops, and with a great saving of time, which, from the patient's point of view especially, is a great gain. As there is no twist or knot in the wire it has not the usual tendency to break. In addition to its use for simple polypus it is particularly adapted for the removal of moriforms from the posterior end of the inferior turbinal, as the instrument can be passed without difficulty with the loop retracted and when in its right position the loop can be ejected, when it will take on any curve to which it has been previously bent. The instrument can be had with end-pieces of varying size and could be used for the larynx as well as for the nose. Messrs. Mayer and Meltzer can supply the instrument complete or will make the addition to a Krause snare for a small sum. Mr. Hunter F. Tod told me when I showed the instrument at the Laryngological Society of London that he had seen a somewhat similar instrument in Vienna, but judging from an illustration there are many differences.

Nottingham-place, W. ATWOOD THORNE.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Feb. 13th, Mr. H. G. HOWSE, the President, being in the chair.

It was agreed, as recommended by the Court of Examiners, that one set of surgical instruments should be lent to the University of London for the purposes of the M.B. and B.S. examinations.

The PRESIDENT reported that he had chosen Mr. Howard Marsh as Bradshaw Lecturer for the ensuing collegiate year.

A letter was read from the Clerk of the Privy Council stating that it had been determined to hold the Medical Congress at Cairo from Dec. 19th to 23rd next, instead of from the 10th to the 14th. Mr. Reginald Harrison was appointed as the delegate from the College to this Congress.

THE COTTON DISTRICTS CONVALESCENT FUND.—The above title seems to suggest an echo of the distant past, for those who remember the cotton-famine resulting from the American war of North and South belong to a former generation. A meeting of the governors of the Fund was held in Manchester on Jan. 30th, when the Hospitals and General Purposes Committee was appointed as were committees to represent the governors on the boards of management of the convalescent hospitals at Southport and Buxton. During the past year 2815 patients were sent to the convalescent hospitals at a cost of £4797.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 22, 1902.

The Midwives Bill.

THE Bill "to secure the better training of midwives and to regulate their practice" is down for second reading on Wednesday Feb. 26th and it has obtained a place which makes it likely that it will be read for the second time. We publish the text of the Bill on page 542 of this issue and would remind our readers that it is imperative that they should make up their minds what course they desire Parliament to pursue, for they must bring without delay what influence they may possess to bear in the desired direction. For our own part, we have no doubt that the Bill to be read next week is a mischievous one, and we are certain that a vast majority of our readers will share this view, or perhaps we should not be so ready to counsel them to give effect to their feelings. In commenting upon the Midwives Bill, introduced by Mr. TATTON EGERTON just two years ago, we pointed out, as one of the main difficulties of what is known as "the midwives question," the fact that both those who do and those who do not desire legislation for the regulation of the practice of midwives can, with equal force, maintain that their opinion is the right opinion on humanitarian grounds and no less on medical grounds. To leave the parturient poor to the mercies of the GAMPS is cruel, but to supply them with a semi-educated grade of medical attendants is no kindness. If the first course leads to disasters the second would seem as inevitably to make for tragedies. True, in the various shapes in which a measure for the regulation of the business of midwives has been before Parliament and the public, conscientious attempts have been made to escape from the dilemma; but the attempts have not been successful, and the Bill which we publish to-day is worse than some of its predecessors. It is in several directions more likely to institute an inferior order of general practitioners and thereby to work in opposition to the public weal.

To begin with, the latest edition of the Midwives Bill contains no penalty whatever to be imposed upon any woman, whatever her absence of qualifications, for "habitually and for gain attending women in childbirth"; any woman can attend confinements and charge fees for her services. Should this Bill ever become law it will be open, as far as we can see, to any woman to continue to pursue the vocation of a midwife, with the single disability that she will not be able to sue for fees. Has the fact that quacks are unable to obtain in the law-court payment for medical service rendered in any way contributed to keep down the number of quacks? Of course it has not, and so long as there is no pecuniary fine to stop the first female who chooses from calling herself a midwife and spreading puerperal fever in return for money we are certain that prospective difficulties about her fees before a county-court judge will never give her pause in her dangerous career. The last Midwives Bill contained a clause fining women who after the passing of the Bill practised midwifery save in conformity with the regulations of the Bill, and the alteration of this clause is a distinctly retrograde step. Again, the present Bill appears to take the control of the purely medical side of the question out of the hands of the General Medical Council by saddling the Lord President of the (Privy) Council with the responsibility of seeing to the formation of the Midwives Board. Two years ago the fourth clause of the Midwives Bill read: "On the passing of this Act the President of the General Medical Council shall take steps to secure the formation of a Central Midwives Board," upon which general statement followed the scheme for the constitution, duties, and powers of the Board. The fourth clause now substitutes "the Lord President of the Council" for "the President of the General Medical Council." Moreover, the framing of the rules with regard to the practice of midwives is now made subject to the approval of the Privy Council, while in the previous Bill the General Medical Council was responsible for the regulation of the course of training and the conduct of examination of candidates for the midwives' roll. It may be said that the Bill provides for the consultation of the General Medical Council by the Privy Council, but medical men, at any rate, will not be much impressed by this concession. Doubtless neither the Duke of DEVONSHIRE nor Sir JOHN GORST are permanent officials; but what guarantee have we that future Presidents and Vice-Presidents of the Privy Council will discharge their duties towards the medical profession in a more efficient manner? The two distinguished members of the Government whose names we have just mentioned, when a question of vital medical importance was under discussion, admitted that they did not know anything about the matter because they had not read the reports of the General Medical Council. What security has the medical profession that advice tendered to the Privy Council by the General Medical Council on the scope of the midwife's duties will not be treated with a like disregard?

It may be remembered that just previously to the second reading of the Midwives Bill of 1900 we received at this office, in response to our invitation, 7250 communications from English medical men giving their attitude as to the proposed legislation. An analysis of these replies showed 1547 medical men to be in favour of the Bill, 640 to be indifferent, and the remaining 5000 odd to be opposed to it. Nothing has happened to make medical men change their opinions, and, as we have shown, such differences as exist between the Bill of 1902 and the Bill of 1900 are not for the better. We think that the time has come for interference on the part of the General Medical Council. The present Bill does not at all conform to previous directions of the Privy Council that certain points should be conceded by the promoters in deference to the views of the General Medical Council. The chief of these views may be summarised in the following words:—

The unlicensed practice of midwifery for gain as well as the false use of titles should be made illegal.

The functions of the Midwives Board should include the framing of the regulations for the conduct and practice of

midwives, especially for restricting such practice to normal cases.

The rules of the Midwives Board should be subject to the approval of the General Medical Council.

Provision should be made by Act of Parliament for reimbursing the General Medical Council for any expenditure which they may incur in performing their duties under the Act.

The conditions under which licences to midwives are granted should include satisfactory evidence of character as well as of training and experience in the conduct of natural labour and in the after-care of lying-in women and newly-born infants.

Provision should be made securing that the midwife in cases of abnormality shall seek qualified medical assistance.

On a previous occasion when we published this summary we received from Mr. HEYWOOD JOHNSTONE, who is among the most eloquent and fair-minded supporters of the measure, a letter referring us to Clause 2 (2) and Clause 4 (1) of the Bill as proofs that the views of the General Medical Council were safeguarded in the proposed litigation. But Clause 2 (2) of the 1900 Bill has been modified so that unlicensed practice of midwifery for gain carries no penalty. And Clause 4 of the 1900 Bill is the clause the whole significance of which has been altered by the substitution of the Privy Council for the General Medical Council. So that it would seem that the promoters of the measure now before Parliament cannot pretend that their Bill satisfies the deliberate and expressed opinion of the General Medical Council—the governing body of the medical profession. And we can assure them that their Bill is equally objectionable to the medical profession at large.

The London Water Bill.

A BRIEF abstract of the London Water Bill was given in THE LANCET on Feb. 8th, p. 392, and in our remarks on the measure in a leading article at p. 384 we suggested that at first sight the Bill appeared to be an "'honest endeavour' to disembarrass the Local Government Board of some of the most useful and the most arduous of its present duties." A consideration of all the facts of the case confirms and strengthens this view, and leads us to point out that we do not consider the measure to be one which merits the support of those interested in the public health of the citizens of London. The responsibility of the President of the Local Government Board in the matter of the water-supply of London would practically cease if the Bill were passed, and he might congratulate himself that the matter was "finally settled" as far as he was concerned. But a responsibility, of the weight of which they are carefully kept in ignorance, would be shifted on to the shoulders of the London ratepayers. A Water Board with tied hands would be called into being. The board would be compelled by the very terms of its creation to buy the undertakings of the present metropolitan water companies. Does Mr. LONG seriously believe that the inhabitants of "Water London" wish to buy these businesses? If so surely he might allow his popularly elected Water Board to decide the matter as to whether purchase would be wise or not in the interests of its constituents. When we congratulated Mr. LONG on the ability he displayed in the speech in which he introduced his Bill into Parliament, we pointed out that he brought forward no serious argument in favour of purchase of the present water businesses. He left his political opponents to attack the measure, which he expected would receive the general support of his own party, although he had previously said at a municipal-political "Smoking at home" that he thought that the Bill might not altogether please the London people in whose interests it was nominally brought forward.

There are certain obvious arguments in favour of the Bill, many of which will be found in the columns of our contemporary the *Spectator*. Briefly, it is urged in favour of purchase of the companies' undertakings that the dividends of the companies are likely to increase and that "therefore the companies were an adversary whom it was eminently expedient to agree with quickly." There are facts which point in the opposite direction. Enormous outlays will immediately be required to place and to keep the existing undertakings in an efficient state. Most of the facts proving this are already known to our readers, for we have more than once insisted upon them, but as they bear directly on the advisability of purchase it may be well to recall three of them:—

1. One of the companies has insufficient sources of water to supply its customers.
2. Several companies have at present inadequate provision for the storage and efficient filtration of the water which they distribute.
3. Constant water service is not given to all those who have the right to demand it.

It is, moreover, certain that an enormous outlay will soon be required to obtain increased supplies of water. The exact amount available from existing sources is not accurately known, because information has, as far as possible, been withheld by the companies which have declined to give particulars in regard to the water levels in their wells, or in regard to the effects which have been caused by persistent depletion of the underground water. It is, however, well known that evidence given before the Balfour Commission has turned out to be erroneous and that the amount of water which was stated to be available cannot be obtained. This matter was fully dealt with in the report of THE LANCET Special Commission on the Metropolitan Water Supply[1] and it need only be said now that the Balfour Commission was obviously misled by evidence which was not in accordance with facts. There can be no reasonable doubt that although some of the present sources of supply are failing the demand for water is increasing and will increase. In this matter the municipalisation of London will have a great effect. The reconstituted City of Westminster and the metropolitan municipalities have, as yet, hardly had time to get into thorough working order, or even, perhaps, to realise fully the greatness of the work which is before them. The City of London proper represents an ancient civilisation which is in thorough working order. Its cleanly streets are washed daily. The streets in the outside municipalities are still to a great extent unwashed. It is not likely that the people will much longer tolerate this state of things. It is certain that a very largely increased amount of water will be used daily for municipal purposes throughout "Water London." This will necessitate a corresponding increase in the amount distributed, but it

[1] THE LANCET, June 21st, 1900, p. 181.

will by no means give a corresponding increase to the amounts paid to the companies, for they are legally compelled to supply water for municipal purposes at a fixed and moderate price. Enough has been said, it may be hoped, to convince any unprejudiced person that it would be a monstrous injustice to the London people to handicap a new board, nominally appointed in their interest, by saddling it with the responsibilities of undertakings about the ins-and-outs of which it is ignorant.

It would be easy to criticise the details of the Government Bill. We have been content to show that it is vicious in principle, while we think that it may be useful to indicate in brief outline the way in which a board, fairly representing the whole of "Water London," might be properly constituted and with what duties it should be entrusted. The board should be essentially a Board of Control. It should exercise supervision over the working of the present water companies and should investigate the problem of the future requirements of the whole district for which it would be responsible. The board should ensure that the existing statutory provisions for the control of the companies are rigidly carried out. The provisions are stringent, but little attempt has hitherto been made to enforce them. The late vestries were as a rule very indifferent in the matter and the London County Council has done practically nothing. The Local Government Board has been content to issue periodical reports which few people read. A Water Control Board is much wanted in regard to the constitution of which the chief desiderata are (1) that the customers of each company should be represented, and (2) that the board should not have too many members. The privileges and duties assigned to this Board should include not only the powers of control at present in force, but its sphere of influence should be made to cover financial matters, as well as the recommendations of the Balfour and Llandaff Commissions, which have hitherto been entirely neglected.

The Aerial Convection of Small-pox from the Hospital Ships in the Thames.

WHAT is known by the somewhat grandiloquent phrase "the march of truth" is liable under certain adverse circumstances to degenerate into a halting and wearisome perambulation. This is most likely to be the case when the acceptance of the truth involves the direct negation of preconceived ideas, and when the demonstration of the thesis put forward depends upon certain natural phenomena which occur but rarely in necessary association. When well-nigh a quarter of a century ago Mr. W. H. POWER, F.R.S., now Principal Medical Officer of the Local Government Board, made his memorable inquiry into the behaviour of small-pox around the Fulham Small-pox Hospital, and when, as the result of such investigation, he enunciated the proposition that the phenomena which he had observed could only be adequately explained on the view that the infection from the hospital had been air-borne, and not carried by human intercourse, a storm of something akin to derision greeted the announcement. The theory was not only new: it was inconvenient.

A Royal Commission considered the matter, but its members were so staggered by the proposal that they sought refuge upon the fence until more light should be forthcoming. No less an authority than Sir JOHN SIMON expressed his intention of waiting for "further confirmatory evidence." Such evidence was soon forthcoming. The staff of the Fulham Hospital, against whom there had been some allegation of slackness in respect of the comings and goings of certain persons connected with the institution, decided to put their house in order. Unfortunately, however, for those who believed that the spread of infection was due solely to personal contact with the hospital infection, on the next occasion when the hospital was used for small-pox isolation a precisely similar spread of infection occurred, and this was repeated, not once, but many times. As the distance from the hospital decreased, even so did the incidence of small-pox upon the houses. The recurrence, indeed, was so marked that it was eventually decided to treat no more acute small-pox cases within the metropolitan area, and subsequently the metropolitan small-pox cases were banished to the hospital ships. Thereupon the area around the London hospitals showed no special incidence of small-pox, and all opportunities for further illustrating the truth of Mr. POWER'S thesis, in so far as London was concerned, came to an end. As, too, there was not much small-pox in the country the opponents of the thesis could still point to certain provincial hospitals and allege that there was no evidence of harm from their operations. But in 1887-88 the Sheffield epidemic occurred, and here again there was the same graduated incidence around the small-pox hospital, albeit the circumstances were regarded as too complicated to justify the inference that such incidence had not been by personal contact. In 1892 and 1893, however, there was an outbreak of small-pox at Oldham, and Dr. J. NIVEN, now medical officer of health of Manchester, who was then the medical officer of health of Oldham, came to the conclusion that the theory of aerial convection alone was capable of explaining the incidence of the disease in the neighbourhood of the hospital. Similar occurrences took place at Warrington, Bradford, and other places, where again aerial convection was thought by the medical officers of health to be the only adequate explanation of the peculiar distribution of the disease. But still the opponents of the views pointed to the hospital ships, where they affirmed there was no evidence of harm. It is important, however, to note that there are but few houses in the immediate neighbourhood of the ships, and that the constant current of air, which the rise and fall of the tidal waters of the Thames must produce, renders the circumstances somewhat unusual. Moreover, the hospital ships were hardly likely to be the cause of mischief when they contained no small-pox. But these facts notwithstanding, there have been ugly rumours afloat in the basin of the Thames for several years as to the excessive incidence of small-pox in the vicinity of the ships, and at last the circumstances necessary to throw more light on the matter have occurred in the shape of crowded hospital ships, small-pox of the necessary type, and a county medical officer of health capable of collecting and marshalling the facts. The extremely interesting but somewhat disquieting paper

by Dr. J. C. THRESH which we publish in another part of the present issue unfolds the real story as to the influence of the ships. The map which accompanies the paper shows that on the Essex side of the ships there are practically no houses within the half-mile radius, but that the three-quarter mile radius embraces the hamlet of Purfleet, which, it must be noted, is divided into two portions, West and South. Confining our remarks mainly to the present epidemic a remarkable fact is brought out that up to Feb. 1st of this year there have been no less than 290 cases of small-pox in the Orsett Union, which is the Essex union nearest to the ships and which has a population of 33,721. In the whole of the rest of the county with a population of 782,700 there have in the same period been but 162 cases—i.e., the incidence on the population of the Orsett Union was 8·6 per 1000, as compared with 0·21 per 1000 on the rest of the county. The incidence on Purfleet, which is nearest the ships, was 88 per 1000, that on the remainder of the parish which comprises the hamlet 2·4 per 1000, and that on the remainder of the Orsett Union 2·8 per 1000—i.e., the nearer the population to the ships the greater the incidence. Now the prevailing wind, which was during the period in question north-west and west-south-west, blew over that portion of Purfleet known as South Purfleet, but very rarely over West Purfleet, and the bearing of this fact is shown in the incidence of small-pox on the South Purfleet population having been no less than 12·0 per cent., while that on West Purfleet was only 0·8 per cent. Such an incidence as the former is truly terrible to contemplate, and, as Dr. THRESH observes, there would at this rate have been in the London population over 500,000 cases within the last seven months. But even this does not complete the story, for the unvaccinated of South Purfleet have been laid low with merciless precision. There were in Purfleet 19 unvaccinated persons, of whom nine had had small-pox before the epidemic; of the remaining 10, no fewer than eight, or 80 per cent., have contracted the disease during the last seven months. No one who is at all familiar with the topography of the valley of the Thames near Dartford and of the rigid enforcement of the rule that no attendants at the ships shall visit Purfleet can do otherwise than agree with Dr. THRESH that personal infection from the ships is a very insufficient and, indeed, almost impossible explanation of this remarkable incidence of small-pox on the adjoining Essex coast.

We have in the pages of THE LANCET always supported the view that aerial convection alone explains certain of the remarkable outbreaks which are liable to occur, under given atmospheric conditions, in the neighbourhood of small-pox hospitals or of institutions being used for the isolation of acute small-pox cases. And it seems to us that in the present instance Dr. THRESH'S view that aerial convection has again been operative is the only explanation consistent with all the facts. Obviously air-borne infection and human intercourse are at times both operative, but it has to be borne in mind that the one does not exclude the other. There are some who regard the cases of small-pox in the Essex districts as due to *water-borne* infection from the ships, but bathing in the Thames at this season is not very common nor are the inhabitants of the districts involved so hard up for drinking-water that they must needs resort to the saline and sewage-polluted solution of the Long Reach. The revelations as to the incidence of small-pox in South Purfleet are extremely inconvenient, and one of their results is likely to be violent opposition to any proposals for the erection of small-pox hospitals. Another result should be the recognition of the fact that we cannot by isolation hope to get rid of small-pox. The remedy is ready to hand and consists in placing revaccination on the same basis as primary vaccination. With the German method we shall avoid small-pox outbreaks, but with primary vaccination alone we can never hope to do so.

Annotations.

"Ne quid nimis."

SANITARY OFFICERS FOR HOSPITALS.

THE authorities of the Belgrave Hospital for Children are about to appoint a sanitary officer to the hospital. The qualifications required for the office include the holding of a Diploma in Public Health, and its duties comprise, not only the supervision of all the sanitary affairs of the hospital, but also consultation with the medical staff in the event of the outbreak of any infectious disease in the wards. It is true that the institution of such an office on the part of the Belgrave Hospital is not an entirely new departure; we know of at least one large general hospital which for some 10 years past has had the services of a specially appointed officer of the kind, while one well-known special hospital utilises in the same way those of the medical officer of health of the district in which it is situated. The importance of sanitation in hospitals is such a commonplace that its determining conditions are apt sometimes to be forgotten. It is requisite, not merely that the original planning of the building should be as perfect as sanitary science can make it, but that, when in working order, constant supervision should be exercised in order that its hygienic arrangements should work smoothly and efficiently. The most elaborately designed system of ventilation may at times work imperfectly and the most perfectly constructed drains become blocked. Despite the best sanitation, infectious diseases are inevitably imported into a hospital from time to time, and the limitation of their spread demands the most anxious consideration. It may safely be asserted, without any disparagement of the marvellous advances in surgery and medicine which the last 20 years have witnessed, that sanitation has played an enormous part in reducing hospital mortality. Those who are sick, and especially the subjects of surgical operations, are abnormally sensitive to insanitary conditions of every kind, and though bacteriology has in part explained this it has by no means completely done so. The horrors of the older hospitals are known by repute only to the present generation, but though hospital gangrene and phagedæna are practically things of the past we cannot believe that even our best-equipped modern hospitals are altogether insusceptible of sanitary improvement. And it is to sanitary experts who are in constant touch with the practical working of hospitals—to men who can be held responsible for the occurrence of preventable disease amongst the patients—that we may most safely look for improvements in hospital hygiene. The functions which the sanitary officer of a hospital may be called upon to fulfil are numerous and we can touch on them but slightly. Where a new building is being constructed, as in the case of the Belgrave Hospital at the

present moment, his advice on all matters connected with its hygienic requirements should be of the greatest value to the architect. He will advise on questions of air-space, ventilation, drainage, and the means for the disposal of solid refuse from the wards. The last-named is a matter of peculiar moment in a hospital because of the infective character which such refuse often possesses, and which renders its retention in the vicinity of the patients a serious danger. Another of his duties will be that of frequent inspection of all drains and other sanitary appliances about the hospital. The ease with which these may become inefficient in a building occupied by a large number of persons is notorious. He may also be called upon to advise, in consultation with the medical staff, upon the nursing of infectious cases with the view of minimising risks of infection. Questions of practical disinfection of all kinds will further fall with propriety within his province. Measures of isolation and quarantine, when infectious disease chances to break out amongst the patients, will also require his attention and advice. All these things and many more will be demanded of a sanitary officer, and it is plain that functions of such vital importance can only be efficiently performed by one who enjoys special qualifications in public health, and who has acquired by actual experience in the routine working of a hospital an intimate acquaintance with the subject. It cannot well be denied that the practical efficiency of a hospital and the welfare of its patients depend so largely upon its hygienic conditions that the status of the officer responsible for them may justly be placed higher than it has been in the past. It is for this reason that we welcome the step about to be taken by the Belgrave Hospital for Children, for we believe that it is one fraught with the best possible consequences for the future of hospital sanitation.

A GLIMPSE INTO THE NATURE OF THINGS.

THE momentous question, what is matter? has for long been put aside by many ardent investigators as probably for ever insoluble. But when we are told that we have actually touched the borderland where matter and force seem to merge into one another we may reasonably assume that we are on the eve of gaining a nearer insight into its nature. This was the subject which Sir William Crookes took the opportunity of discussing before His Royal Highness the Prince of Wales on the occasion of his formal admission to the Fellowship of the Royal Society on Feb. 6th. Sir William Crookes's declaration marks a very important epoch in the progress of science, and it was fitting that this epoch should have been associated with an interesting and historical Royal incident. The existence of a fourth state of matter has for a long time been indicated in radiant phenomena. Sir William Crookes called it the "ultra-gaseous" state, and later "radiant matter," while more recently the latter phrase has given way in favour of the term "electrons." An electron is, so to speak, an atom of electricity which exists always in the presence of the atom of matter. The electron is the satellite of the particle which when liberated from it under the influence of electric discharge behaves not as a gas but more, as Sir William Crookes says, like a fog or mist, clinging to positively electrified bodies and thereby losing mobility and settling on the walls of the container if left quiet. In the radiant matter-tube, under the influence of the current the material atoms arrange themselves in groups, while the rushing swarms of electrons driven from the negative pole meet them. The effect of the bombardment is light and heat. The questions, what are x rays and what is radio-activity may soon in the light of these revelations receive a satisfactory answer. The basis of the electron is probably the same in all cases, the protyle of Crookes, from which the chemical atoms are assumed to be formed. A negatively charged chemical atom is one having a surplus of electrons, the number depending upon the valency, whilst a positively charged atom is one having a deficiency of atoms. Truly we have here a glimpse into the nature of things. Veil after veil is being lifted and, as Sir William Crookes said before the British Association at Bristol in 1898, the face of Nature grows more beautiful, august, and wonderful with every barrier that is withdrawn.

SMALL-POX IN LONDON.

THE small-pox returns for the past week show but little improvement. On Saturday, Feb. 15th, 33 fresh cases were notified and removed; on Sunday, the 16th, there were 39 fresh cases; on Monday, the 17th, there were 71 fresh cases; on Tuesday, the 18th, there were 63 fresh cases; and on Wednesday, the 19th, there were 54 fresh cases.

THE ETIOLOGY AND EARLY DIAGNOSIS OF GENERAL PARALYSIS.

DR. WILLIAM PICKETT opened an important discussion on the Etiology and Early Diagnosis of General Paralysis of the Insane at a recent meeting of the Philadelphia Neurological Society, an account of which appeared in the *Journal of Nervous and Mental Diseases* of New York for January, 1902. The observations of recent observers—notably Krafft-Ebing—had shown that an antecedent syphilitic infection could be ascertained in three-fourths of the patients examined, and that elderly general paralytics were immune to syphilitic infection. Dr. Pickett, basing his investigation on 149 cases of general paralysis admitted as patients to the Philadelphia Hospital, could only find signs of antecedent syphilis in 60 per cent., but he thought that the actual proportion of syphilitics was slightly higher and that most of the early cases were demented. In the discussion which followed Professor Charles K. Mills stated that an experience of 25 years in private practice combined with the study of the literature of the subject led him to conclude that from 85 to 90 per cent. of general paralytics had antecedent syphilis. Dr. F. X. Dercum said that the proportion of demented cases in early general paralysis was, in his experience, large—nearly as large as that given by Dr. Pickett and Professor Mendel. He did not believe that there was any relationship between general paralysis and epilepsy and he denied any causal relation between alcohol and general paralysis. "Almost, if not all, male paretics," said Dr. Dercum, "drink to excess in the earlier period of their disease." He also pointed out that such patients were very prone to develop delusions of marital infidelity. Dr. Alfred Gordon referred to the almost invariable presence of congenital syphilis in juvenile paretics and cited the recently recorded observations of Regis, who in every one of five consecutive cases of juvenile paresis found congenital syphilis. In a discussion at the New York Medical Society[1] on the causation and early diagnosis of general paralysis Dr. Arthur Hurd of Buffalo stated that he found signs of antecedent syphilis in 68 per cent. of patients, but pointed to the fact that though syphilis was widely prevalent in Egypt and Japan paresis was rare in both countries. He argued that the overwork and keen stresses of western civilisation excited general paralysis in a brain weakened by syphilis and thought that in time to come the disease would increase in the two countries referred to. In America the disease was most common amongst military men, actors, stock-brokers, and men accustomed to mental overstrain, and rare amongst Quakers and the clergy. Dr. Dercum said that early diagnosis was important, the mistake made most often being to regard early general paralysis

[1] New York Medical News, Feb. 1st, 1902.

as neurasthenia. "The paralytic," said Dr. Dercum, "seldom came of himself to consult a physician, he was brought by his friends, and unlike the neurasthenic [or hypochondriac] he had no long story to tell." The paretic in the early stages of his disease was liable to lapses of memory, of decency, and of ability for work. The neurasthenic after brief and light sleep had a wakeful morning, felt depressed on rising, and did not care to face the day, while he felt at his best in the evening. The paretic, on the other hand, tossed in bed with little or no sleep during the night and only slept a little in the morning. He felt at his best in the forenoon and was quite exhausted in the evening. Dr. Charles Wagner said that general paralysis had increased steadily in America since 1850, being first noticed in the period 1850 to 1860. At present 10 per cent. of all patients in American asylums were paretics. It was especially prevalent among native-born Americans, whereas the alien population was more liable to develop psychoses. Dr. Edward Cowles declared that anti-syphilitic treatment did not benefit paretics and argued that the disease was a toxæmia like myxœdema.

THE WORKING OF PLAGUE MEASURES IN INDIA.

THOSE of our readers who have been in the habit of referring to the "Notes from India" furnished by our special correspondent will have been enabled to keep themselves fairly abreast with the progress of plague in that country. From the increase of the plague mortality which has been taking place of late and the high general death-rate of Bombay it may safely be inferred that the city of Bombay will not escape the usual epidemic rise of the disease which, according to past experience, occurs at this season. This very naturally has given rise to increased vigilance and efforts on the part of Dr. J. A. Turner, the health officer, and the medical and municipal authorities concerned. The organisation and methods of procedure are fully set forth in some articles which appeared in the *Times of India* of Feb. 1st. It goes without saying that all systems of sanitary organisation and public health measures must be circumscribed within the limits of what is practically attainable, and their methods of working should be such as are not calculated to arouse a general spirit of antagonism on the part of those to whom they have to be applied. If this be the case even among educated people who are willing to make some sacrifices and to submit to personal inconvenience in the public interest, it is still more so in the case of Oriental races who are tied and bound by religious and social traditions and who are intensely conservative where these are concerned. The aim in view is not so much, perhaps, what is sound and logical in theory or what might be applicable to a small and relatively isolated population where all the conditions are known—like that of a rural village, for example. Large and populous cities and towns have to be dealt with where the health conditions are unfavourable and complicated, and preventive measures cannot be pushed to a logical conclusion without causing much discomfort and even hardship. What seems to be the most suitable course under such circumstances is the organisation of some good, simple, and uniform sanitary system on a practical working basis, the establishment of some method for the early notification of disease and death, together with arrangements for promptly evacuating infected and overcrowded localities and buildings by the selection and provision of sites and encampments suitable for immediate occupation. Such measures will not only allow of the removal of people in anticipation of an outbreak and the thinning of overcrowded localities, but will permit also of a thorough disinfection of the evacuated houses being carried out and of their being subsequently ventilated and freely exposed to the air and sunshine. Owing to the action of the health officer and the local authorities in Bombay there seems to be every prospect of the suitable machinery being present and ready for carrying out these objects. We need scarcely add that, as far as practicable, recourse should also be had to the use of Haffkine's method of preventive inoculation against plague.

CHELSEA CLINICAL SOCIETY.

THE annual clinical debate of this society is fixed for March 11th and 18th next at the Jenner Institute of Preventive Medicine, Chelsea Gardens, Grosvenor-road, S.W., at 8.30 P.M. The subject selected for discussion is "Cancer—its Nature, Origin, and General Principles of Treatment." The debate will be opened by Dr. J. F. Payne and full particulars will be shortly announced. The debate will be open to all members of the medical profession.

THE CASE OF THE LATE MR. R. B. ANDERSON.

MR. WALTER MONNINGTON, the honorary secretary of the fund in aid of the widow and children of the late Mr. R. B. Anderson, F.R.C.S. Eng., writes to us as follows:—

> The committee formed to appeal for aid for the widow and sons of the late Mr. R. B. Anderson, F.R.C.S. Eng., beg to announce that the subscriptions now received amount in all to £202 5*s.* 6*d.* and to request intending subscribers to kindly forward their donations *at once*, marked "For the Anderson Fund," to the manager of the Union Bank of London, Chancery-lane, London, as it is definitely proposed to close the account on the 28th inst. A strong hope was entertained of collecting at least £500—the sum, it might well be remembered, fixed by the jury by their verdict in Mr. Anderson's favour in "Anderson *v.* Gorrie and Others." It is still desired that the £202 now in hand may be largely augmented before the fund closes on the last day of this month.

We need not again expatiate upon Mr. Anderson's wrongs or upon the needs of his widow and children. It is not a large sum which is wanted now—only £300. Surely those medical practitioners who have not yet subscribed—there are many such—will not hesitate in making up the comparatively small sum required.

TYPHOID MASTITIS.

IN the *American Journal of the Medical Sciences* for December, 1901, Dr. F. Davis, jun., Dr. H. S. Patterson, and Dr. A. W. Hewlett have published a case of this very rare complication of typhoid fever. A woman, aged 34 years, was admitted to hospital on May 25th in the third week of an attack of typhoid fever. The temperature was 105° F., rose spots were present, and Widal's reaction was obtained, but blood cultures made on May 27th and 31st did not yield the typhoid bacillus. On June 9th, the thirty-sixth day of the disease, the temperature became normal. Three days later the patient complained of pain in the left breast. On June 14th the breast was swollen, a hard and tender lump was felt on its outer side, and the axillary glands were enlarged and tender. On June 15th the right breast was also tender. Lead and opium compresses were applied and the breasts seemed to improve, but the temperature, which began to rise on the 15th, showed wide daily oscillations of the septic type between 99° and 102°, and not the "staircase" character of a typhoid relapse. On the 20th the swelling and tenderness of the left breast had become much more marked and involved the two upper and the outer lower quadrants. The skin was freely moveable and the nipple was not bound down. On the 24th the temperature reached 104° and fluctuation was detected. Under chloroform an incision was made and 150 cubic centimetres of thick pus containing the typhoid bacillus in pure culture were obtained. The abscess cavity consisted of many loculi which were broken up with the finger. After the operation the temperature at once fell to normal and healing was uninterrupted. The swelling in the

right breast diminished, but when the patient left the hospital slight induration in the upper and outer quadrant could still be appreciated. There had been no previous disease or injury of the breasts. In 1874 Leudet recorded five cases in which one or both breasts became tender and swollen in typhoid fever and showed inflammatory masses.[1] In all resolution occurred. Curschmann states that transitory swelling of the breasts at the height of the fever is not uncommon and may be overlooked as the patient does not complain.[2] The writers alluded to above have been able to find records of only four cases of suppurative mastitis in typhoid fever. In one described by Charlotte P. West there was a general pyæmic condition.[3] At the beginning of the third week both breasts became swollen and tender, possibly from hypodermic injection of saline solution. At the beginning of the fourth week localised dusky red swollen elevations were discovered in both legs, both arms, and both breasts. Those in the right leg, the left arm, and both breasts suppurated and healed after incision. Recovery followed. In 1891 Destrée reported two cases of typhoid fever in which an abscess developed in the right breast at the end of the third week, but the pus showed only staphylococci. The fourth case is reported by Capellari and is almost exactly parallel to the one described above. A girl, aged 15 years, developed pain and swelling in the right breast in the fourth week. The temperature, which had become normal, assumed a septic type. The abscess was opened and recovery followed. No bacteriological examination was made. Capellari lays stress upon the age of the patient, believing that at puberty the rapid development of the mammary glands predisposes to inflammation. In one of the cases of suppurative mastitis quoted above it is stated that the preliminary swelling and tenderness of the breasts were thought to be due to the hypodermic injection of saline solution. It has been pointed out in THE LANCET[4] that the typhoid bacillus (which is usually present in the blood in typhoid fever) may be localised at the sites of injuries received during the fever. Further, the injury in one of the cases there described was due to the hypodermic injection of saline solution. Hence it may be fairly concluded that in the case now quoted this was the exciting cause of the suppuration.

DEATH FROM FISTICUFFS.

THE coroner's jury at Hackney which recently inquired into the death of a man named Barnett and returned a verdict of "Death by misadventure" showed more good sense and discrimination than are always exhibited on such occasions. The deceased and a man named Smith had a quarrel originating in a discussion over the meaning of the word "punter," and the discussion of this somewhat trifling matter—which perhaps makes the prevalence of betting the originating cause of the tragedy—seems to have aroused considerable ill-feeling in the mind of Barnett. After some preliminary scuffling it was arranged that the two men should formally fight later in the day, Barnett throughout being the aggressor and Smith showing himself unwilling to continue the quarrel. In the end, however, Smith proved himself the better man with his fists, and, after what appears to have been a perfectly fair fight in the presence of a number of his fellow workmen, Barnett received a blow on the jaw which rendered him insensible. Very soon afterwards he died. The medical evidence was to the effect that Barnett had been severely punished about the head and face and that the blow on the jaw had probably caused concussion of the brain, while the fall had ruptured a blood-vessel on the brain. In such circumstances men before now have been committed for trial for manslaughter and indicted for that they did "feloniously kill and slay" their opponents. The verdict of the jury, found under the direction of Dr. Wynn Westcott, coroner for North-east London, seems to recognise the fact that if rough men choose to settle their disputes with their fists a fatal occurrence is not necessarily chargeable against the survivor as a crime. It is for the pistol, the knife, and the attack by an organised gang as modes of settling quarrels between men or boys that the criminal law should be set in motion. The fist, as the occurrence we are commenting on shows, may, guided by an unhappy chance, be a deadly weapon when wielded against a man possibly not in the best physical condition and not trained to receive or to avoid blows dexterously; but the annals of the prize-ring are sufficient to show the extraordinary amount of battering with the bare fist that the head and body of a man will take without injury when he is in sound health, practised, perhaps, to avoid the more dangerous strokes, and inured to receive blows as well as skilled to deliver them. It no doubt weighed with the Hackney jury that the man whose fate was in its hands had not been the aggressor but must be taken to have had no choice between submitting to be bullied and fighting in self-defence.

THE AUDITORY APPRECIATION OF MOSQUITOES.

THE science of electricity has within the last quarter of a century made enormous strides, and this force is now utilised in America to put what is alleged to be a painless end to a criminal existence. But the idea of destroying mosquitoes by this means is a novel one. It seems, however, according to a paper on the structure and biology of anopheles which has been contributed to the current number of the *Journal of Hygiene* by Dr. George Nuttall and Mr. Arthur Shipley, that the mosquito is peculiarly susceptible to sounds of a certain character. It is stated, for instance, that persons are more liable to be bitten when engaged in conversation than when silent, and that when a stringed instrument is played the mosquitoes in the room become extremely active, and those outside enter the room through the open window. So, too, when music is played in the open, whether in the dark or in presence of a lamp, the mosquitoes tend to congregate around the performer. It is also reported by an electrical engineer that when he was engaged on some experimental work on harmonic telegraphy he found that when the note given out by the instrument was raised to a certain pitch all the mosquitoes, both those inside and those immediately outside the room, crowded together near the apparatus. The ingenious engineer converted the apparatus into a fly-catching machine by covering it with fly paper, and having attracted and captured the insects proceeded to electrocute them. In this connexion it may be mentioned that towards the end of last year a letter appeared in the *Times* from Sir Hiram S. Maxim in which he narrates that while erecting an electric light apparatus at Saratoga Springs, New York, one of the lamps, which was of a somewhat peculiar type, gave off a constant musical note. One evening on examining this lamp he found that everything in the immediate vicinity of the box below the globe which was emitting the sound was covered with mosquitoes. An examination led to the discovery that all were males, and this in spite of the fact that there was in the neighbourhood an enormous preponderance of females. Sir Hiram Maxim states in graphic language that "when the lamps were started at the beginning of the evening every male mosquito would at once turn in the direction of the lamp and, as it were, face the music, and then fly off in the direction from which the sound proceeded." That the male mistook the buzzing of

[1] Clinique Médicale de l'Hôtel Dieu de Rouen, 1874, pp. 96-99 and 113-118.
[2] Der Unterierbatyphus, Vienna, 1898, p. 184.
[3] Philadelphia Polyclinic, 1898, vol. vii., pp. 253-256.
[4] THE LANCET, Feb. 15th, 1902, p. 464.

the instrument for the buzzing of the female is probable, seeing that the notes emitted were practically identical. Here, then, is a new phase of sexual selection which is likely in the hands of the electrician to lead rather to the extinction than the perpetuation of the species. But doubtless there would arise some discriminating males who, refusing to be attracted to electrocution, would survive to impregnate the superabundant females. Sir Hiram Maxim suggests an interesting experiment. "If," he says, "you obtain a tuning-fork which emits a note as near to that of a female mosquito as possible and strike this fork within 20 feet of a male mosquito, he will at once turn about, face the music, and erect the two little feathers of his head, something after the manner of a cockatoo."

THE DISTRIBUTION OF PLAGUE.

As regards Egypt, during the week ending Feb. 9th 8 cases from plague and 8 deaths from the disease have been reported from all Egypt. 4 cases and 6 deaths occurred at Tantah, 3 cases and 1 death at Abousir, and 1 case and 1 death at Kafr Enan near Ziftah. Tantah has shown a marked improvement during the week, as only 4 of the cases mentioned above were fresh cases, 2 being admitted to hospital and two being found dead out of hospital. As regards The Mauritius, a telegram from the Governor received at the Colonial Office on Feb. 14th states that for the week ending Feb. 13th there were 15 cases of plague, of which 9 proved fatal.

SOME DISADVANTAGES ATTENDING ELECTRIC SYSTEMS.

WE anticipated at the time when the electric underground railways were started in London that sooner or later, owing to their peculiar construction, better means would have to be devised for providing these "tubes" with fresh air. We were pretty freely criticised by those responsible for the construction of these railways for entertaining such "exaggerated" notions. We are face to face with the fact now that the air at least of one "tube"—namely, the Central London Railway—is fœtid and poisonous. Numerous letters have appeared recently in the daily press complaining of this objectionable and growing characteristic, so that, in spite of the undoubted convenience of the "tube," many persons are being deterred already from travelling by it on account of the nauseating effect of the air in the tunnels and even at the booking offices. To not a few the preliminary greeting of bad air as each lift discharges its load at the ground level is enough. There is no doubt that the management of this railway is face to face with a difficulty which, in the interests of the public and therefore of themselves and their shareholders, must be overcome. Under the present conditions, and especially in a time of epidemic, the tube may easily become a disease-disseminating channel. There can be no difficulty in providing a remedy—namely, by pumping fresh air through the tunnels. We are glad to note that some efforts are being made to avoid the possibility of danger connected with short-circuiting on electric railways. It appears, however, that at present there seems to be no sure way of preventing short-circuiting, so that the next best thing is to provide against its effects when it happens. Insulation apparently may be perfect at the start, but there are countless agencies which conspire to break it down, at any rate as it is carried out at the present time. There is no doubt that for their own sakes those whose business it is to distribute the electric current would prefer to do it safely and free from the chances of short-circuiting. Short-circuiting is a source of danger to the public and a decided loss to the electric companies. We cannot help thinking, however, that in view of so many short-circuiting occurrences electrical engineers must own that it is a contingency which baffles them. This week, at about 10 A.M. on Monday, an accident occurred in connexion with the electric lighting cables close by our offices. By some it was attributed to the upsetting of a spirit lamp during repairs, although what followed was analogous to previous outbreaks of fire in electric boxes in which short-circuiting was the undoubted cause. Dense black fumes suddenly belched forth from a "box" in the pavement just outside the Adelphi Theatre and later the dense fumes were accompanied by fierce flames several feet high. The event was evidently sufficiently alarming to bring a large number of fire-engines upon the spot within a few minutes of the outbreak. Subsequently the outbreak was subdued by choking the cavity with sand and closing the crevices with sacking. We noted that the intelligence of the firemen was displayed in the fact that not until the current was cut off was water poured into the hole, otherwise it is possible that an inflammable mixture would have been generated and a serious explosion might have ensued. No great damage appeared to have been done and by prompt work the company was able to supply the current to its consumers again before dark. It was fortunate that the accident did not happen on a dark foggy day. We still believe that short-circuiting would happen less frequently if greater and better attention were given to the requirements of efficient insulation.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following resolution of a special committee was unanimously adopted by the Council of the Royal College of Surgeons of England on Feb. 13th, and at an extraordinary meeting of the Comitia of the Royal College of Physicians of London on Feb. 18th, namely:—

> This Committee recommends the two Royal Colleges to consider and develop a scheme for investigation into the causes, prevention, the treatment of cancer, and that for this purpose delegates be appointed by the two Royal Colleges (who shall have power to add to their number) to draw up a detailed scheme.

In pursuance of this resolution the following delegates were appointed to draw up a detailed scheme for systematic investigation into the causes, prevention, and treatment of cancer, viz.:—As representing the Royal College of Physicians of London: Sir William Selby Church, Bart., President; Sir William H. Broadbent, Bart., K.C.V.O.; Dr P. H. Pye-Smith, Dr. Whipham, Dr. Payne, Dr. J. Rose Bradford, and Dr. J. F. W. Tatham. As representing the Royal College of Surgeons of England: Mr. H. G. Howse, President; Mr. J. Langton, Mr. H. Morris, Mr. H. T. Butlin, Mr. W. Watson Cheyne, C.B., and Mr. R. J. Godlee.

APPENDICULAR COLIC FROM THREAD-WORMS IN THE VERMIFORM APPENDIX.

IN the *Intercolonial Medical Journal of Australasia* for December Mr. R. Hamilton Russell has recorded a case of this rare and interesting condition. A boy, aged nine years, was taken to hospital with the following history. From two to three years before he began to complain of abdominal pains which appeared to be excited or aggravated by going up and down stairs. Sometimes the pains were so severe that he was carried by his companions. He was also frequently seized with abdominal pains when in bed and was sometimes awakened by them. He was unable to run about and to play with his schoolfellows and a day rarely passed without an attack of pain which he always referred to the umbilicus, where there was a small hernia. He was admitted with a view to operation on the latter, but as he had no attacks of pain in hospital the operation was not performed. Seven months later he was readmitted with the history that the symptoms had become worse. There was no tenderness in the region of the appendix, but after the abdomen had been under examination for

a minute or two he commenced to cry and complained of abdominal pain. This occurred on several occasions, and as he was a frank and manly little fellow no doubt was entertained of the reality of the pain. Exploration was therefore performed. The umbilicus was included in an elliptical incision and removed in its entire thickness. No adhesion or other abnormality could be found. The ascending colon was drawn out of the wound until the appendix appeared. Suspicion fell upon the latter which was very long and tortuous and appeared to be distended. It was removed and the abdomen was closed. Recovery was uneventful and the boy was completely and permanently relieved. The lumen of the appendix was dilated, the mucous membrane was thickened and congested, there was considerable excess of lymphoid tissue, and the cavity contained a large number of thread-worms. On inquiry it was ascertained that all the children of the family, of whom the patient was the eldest, were infested with thread-worms.

THE DANGEROUSLY INFLAMMABLE NATURE OF CELLULOID

DESPITE the fact that quite a crop of serious accidents have been recorded for the past 10 years in THE LANCET arising from the use of celluloid ornaments little or nothing appears to have been done to render celluloid less fiercely inflammable. In an article printed elsewhere in our present issue Professor Ogston records some further cases illustrating the dangers of this substitute for ivory and horn and these cases afford a complete endorsement of all that we have said in our columns upon this subject from time to time. Although he refers to a number of instances of burns due to celluloid which have been published in THE LANCET as well as to some experiments which our laboratory commissioners conducted in 1892 in regard to the inflammability of celluloid he omits to mention the experiments which were made by our commissioners in 1898—experiments which are in striking accord with those which Professor Ogston now records. In THE LANCET of March 5th, 1898, p. 661, will be found the results of some experiments in which the danger of placing a celluloid comb in the hair was amply demonstrated. The actual experiments consisted in placing a celluloid comb in position in a wig at varying distances from a glowing fire and the results were absolutely convincing as to the probability of most serious consequences ensuing to the wearers of these celluloid ornaments. Further, it was found that a curling iron heated to the temperature necessary for curling purposes would readily start the evolution of dense and highly inflammable fumes if brought in contact with a celluloid comb or hairpin. The proximity of a naked light adds to the danger enormously, for the fumes of celluloid will ignite fiercely at some considerable distance from the flame. Later, we demonstrated the danger of exposing celluloid toys in shop-windows close to electric lamps. Professor Ogston suggests that all celluloid articles for personal wear should have the word "ignitible" conspicuously imprinted upon them. We suggested, now nearly four years ago, that the manufacturers of these dangerous articles should be compelled to stamp plainly upon them the words "highly inflammable." The danger is no imaginary one. We remember an instance in which a gentleman with a lighted cigar in his mouth was playing upon an "American organ" furnished with celluloid keys. Of course, he was wrong to be smoking at such a moment, and he was convinced of this by the fact that when some red hot ash dropped upon the keys they instantly burst into fumes and flame which could only be extinguished with the greatest difficulty. Surely some means could be devised to impregnate the material with an inert or deterrent substance and so to render celluloid less liable to decomposition and consequent fierce ignition.

THE GENERAL MEDICAL COUNCIL.

A SPECIAL session of this Council will begin on Tuesday, Feb. 25th, at the office of the Council, 299, Oxford-street, at 3 P.M., under the presidency of Sir William Turner. The question at issue between the Council and the Royal Colleges of Physicians of London and Surgeons of England will constitute the business of the session.

MR. PEARCE GOULD delivered the first of his Lettsomian Lectures before the Medical Society of London on Monday, Feb. 17th, his subject being "Certain Diseases of the Blood-Vessels." We shall publish these lectures in full in our columns.

HIS HIGHNESS THE KHEDIVE has bestowed on Mr. Harry Crookshank (Pasha), F.R.C.S. Edin., the Grand Cordon (first class) of the Imperial Order of the Medjidie in recognition of his signal services in Egypt.

IN a Convocation held on Feb. 18th the University of Oxford conferred the degree of Hon. M.A. upon Mr. Alfred Winkfield, F.R.C.S. Eng. Mr. Winkfield is medical officer of health of Oxford.

Looking Back.

FROM

THE LANCET, *SUNDAY, FEB.* 22, 1824.

HOSPITAL REPORTS.

GUY'S HOSPITAL, FEB. 21.

PHYSIOLOGICAL EXPERIMENT.

The following curious experiment has been lately tried by Dr. BLUNDELL, lecturer on midwifery at this hospital. This gentleman opened the common carotid of a dog, and allowed the artery to bleed till the animal appeared dead; when Dr. B. immediately injected into the jugular vein, the blood that had been drawn off, which had the effect of resuscitating the dog. From the result of this experiment, Dr. BLUNDELL infers that when the vital powers appear to be extinguished in a woman during parturition from uterine hæmorrhage, there is a chance of restoring animation by the immediate injection of blood into the jugular vein. Whether the blood to be injected is that of the patient herself, or of some animal which is to be killed for the purpose, we are not exactly certain, but we believe the former.

COLLEGE OF PHYSICIANS.

We have received communications from some members of this body, complaining of the inequality that exists between the privileges of the Licentiates and Fellows of the College, and requesting us to take up the subject. The fact is, that the regulations of the College complained of aim at this one object, viz. the keeping up an aristocratic distinction between the Graduates of the English Universities and those educated elsewhere, without any reference to the respective merits of the different individuals. We shall therefore feel it our duty, at some future time, to comply with the request.

EFFICACY OF THE SULPHATE OF QUININE IN AGUE.

Dr. MICHAELIS, of Berlin, has recently had an opportunity of trying the efficacy of this new medicine, in a great number of cases of intermittent fever, which has chiefly attacked children in a particular district. He has given it in doses of three grains to children, during the remission, with the greatest success,—this quantity being sufficient to prevent a return of the fever.—*Journal der Chirurgie von Gräfe und Walter.*

FOUNDLING CHILDREN IN FRANCE.

BY CHARLES GORING, M.B., B.SC. LOND.

"All voices must speak for him. Every child that is born must have a just claim for his bread."—EMERSON.

THE simple and admirably arranged system by which that service of justice—the protection of foundling children—is conducted in France is briefly as follows. There is a principal depôt in Paris with subsidiary depôts in the other principal towns of France into which the foundling children are first collected from all over the country. So severe in France is the punishment for ill-treating or exposing children, and so great is the facility to abandon them to the public care, that this preliminary collection presents but little difficulty. In the majority of cases mothers who wish to abandon their children bring them to the depôt themselves and voluntarily resign their parental rights. The service is open to all; none are denied the right to make use of it. In addition to the children thus voluntarily abandoned the State also demands the care of all children who are being physically ill-treated or morally corrupted by their parents. Received into the depôt the child is kept there for as short a time as possible. It is fed, clothed, and baptised, and every attention is given by medical treatment and nursing to correct physical ailment and to obtain a vigorous state of health. When these preliminaries are fulfilled the child is immediately removed to the country by an appointed *nourrice* (nurse) who forthwith incorporates the newcomer into her own family as one of its natural inmates. This placing of the children in the home of a *nourrice* is not undertaken without careful forethought. Each child is considered as an individual and particular attention is given to possible heredity in weighing the decision as to its future home. At the same time the welfare of the families about to receive the children is also taken into account. All weakly children and those who are known to be the offspring of vicious parents are specially placed and closely watched during development in order that other children may be protected from physical or moral infection and contamination. No woman is accepted as a *nourrice* unless she is either personally known to the authorities or can afford credentials of honesty, respectability, and capability for the office which she undertakes to fulfil. A register of women who are certified as fit to become nurses is kept at the principal depôts. The supply is in excess of the demand; consequently, as occasion arises, a selection amongst them is possible to meet the special requirements of the children. Each nurse, when a child is handed over to her care, receives definite instructions as to the duties and obligations for the fulfilment of which she is to be held responsible. She has to take the child into her home, to suckle it for the proper term, to clothe and to feed it, and at the proper age to supervise its attendance at school; in short, she is in every way to act as a natural mother should to her own child.

In the way described above, then, each child abandoned in France may find a new home, a natural home, and may grow up under normal conditions. The nurse becomes its mother, her husband its father, and her children its brothers and sisters. Not only physical wants, but the imperative demands of childhood for love, tenderness, and companionship are thus satisfied. The child remains in the family till the age of 14 years. Apart from home training it has received the free education of the schools which the law allows for all children. After this age the child is apprenticed to some trade, craft, or business, and is not finally released from the public surveillance and protection until it has been made good for something and can begin life with an "open field and fair play."

This is the machine as it exists in principle. The machine at work has possibly other aspects. Many defects may then appear that require constant reparation and attention. A multitude of weaknesses is inseparable from all machinery. The corruption of moth and dust, the possibility of abuses arising from rival interests can never be eliminated. The machine here described is the machine as an ideal—the machine of glorified record from blue-book and hearsay; and when all has been said of human institutions the ideal is the only final criterion. With our institutions, at any rate, it is better to fall beneath a high ideal than to approximate a low one. This at least can be said of the French system for assistance to helpless children—that the ideal is the right one, however it works out in practice; that the effort to administer the highest justice is noble and good, whatever infirmity the results may possess. To estimate these results personally would be a long and difficult task, involving an intimacy with families all over France and the surveillance of children through many years. This is impossible, and we must therefore rest content with the reports of the inspectors—reports based on personal observation, optimistic, telling of practical issue in adequate proportion to the lofty theoretical aim. And that such reports are not widely exaggerated (if exaggerated at all), that the mechanism seems practicably workable and full of vitality, can be deduced from a limited personal observation possible to everyone—by "a seeing with the eyes and touching with the hand" the very heart of the whole mechanism as it throbs and works every day at the headquarters of the institution in Paris.

A visit to the hospice of the *enfants trouvés* leads the imagination to think of the emotions that must have been witnessed at its threshold. Standing in the Boulevard Rochereau, a quiet road on the outskirts of the Quartier Latin, where the never-ceasing roar of a great city reaches only as a distant murmur, this unobtrusive stone building has taken part in every variety of anguish which maternity can produce in woman. What a motley show would be the long procession of mothers who have passed over this threshold—mothers from all classes and of every type of womanhood, possessed by every degree of maternal conflict from all but indifference to heart-broken despair; vagabonds, prostitutes, criminals, young and old, virtuous and depraved—all with the same intent, to give up to the public care their rights to the precious burden each carries in her arms.

This quiet unobtrusive building in the Boulevard Rochereau is the town house of the family of foundling children whose country residences are scattered over France. The main structure, and many smaller buildings behind it, stretch over a wide area. Gardens surround the buildings; their trees appearing above a long, high wall attract the passer-by to inquire what is this snug and peaceful refuge so securely inclosed. Despite the formidable wall and a massive door admission is readily obtained by the stranger. Here, as at all hospitals or public institutions in Paris, the stranger is welcomed; his curiosity is understood and never maliciously interpreted and every obliging effort is made to give it honest satisfaction. There is cordiality even in the *concierge* who refers you to the manager; in the manager who is delighted to see you and summons a guide; in the guide who forthwith takes you in hand and leads the way. You feel at ease and you know you are to see the machine at its normal daily work, at no exceptional performance specially prepared for visitors or patrons.

Once inside you are struck by the bustle of business about you—a business suggestive of play rather than work—hardness, weariness, and care are all absent from the scene. There are women in uniform rushing to and fro, groups of women excitedly talking, their faces serious and preoccupied and every one of them good-humoured and light-footed. A gigantic nursery the place seems to be with children and babies everywhere. You come across them at each turning; on every landing women are seen in every direction with human bundles in their arms. The children cling to you, they roll on the floor under your feet, files of them in pretty uniform march by in procession. A number of babies are set out on shelves like bales of merchandise, sorted and ticketed. Through this maze of children you pick your way, preceded by your guide. A marvellous creature is this guide, overflowing with energy, with a fine stride and a voluble tongue. With the air and voice of a proprietor she unfolds the mystery of the business and displays her living ware. There is a certain condescension in her voice as she replies to your questioning—a certain pity for the merely masculine and its inevitable ignorance of baby ware. Her explanations are as eloquent and as detailed as a mother's of her offspring. She tells you that this building is not only the town house of the *enfants trouvés*, that it has a second and still more important function. Its chief function is to serve as a temporary refuge and *crèche* for children whose parents, on account of some misfortune, are unable temporarily to provide for them. Thus babies prematurely born and the babies of women who are sick are sent here to be provisionally suckled, and the children of parents who are out of employment, or who have been temporarily

disabled from work, or who are at hospital or in prison, are taken in here to be cared for and protected by the State until their parents are in a condition to receive them again. Your indefatigable guide leads you to the receiving-room where you see the latest of these little visitors just brought in and witness their delight as a necklace of blue-and-red beads is clasped round the neck of each. This necklace is the mark of the child's identity. To it is suspended a small silver pendant stamped with a number which corresponds with a similar number kept in the register. Your guide takes you through the dining-rooms, kitchens, gardens, and hospitals, and convinces you, by her appearance, by her words, and by what she shows you, of the care and devotion with which the institution provides for the welfare of its adopted children.

Of the children permanently abandoned there is not much to be seen. These children, mostly babies, are removed as soon as possible to the country and seldom remain for more than a day or two at the town house. What is to be seen of them, however, is a wonderful sight. You find them in a large and airy room—long rows of babies in cots, babies being washed, dressed, fed—baby jargon, baby lamentation filling the air; stacks of baby garments and pyramids of baby bottles standing about the place. Most marvellous amongst them are the newcomers, identical in form, size, raiment, and expression—laid out on their backs in a row, contorting their foolish faces, and waving their comical limbs. They are awaiting baptism. Side by side they lie, indifferent to the birthright which they have lost, full of beseeching demands which they cannot utter. But in France all voices speak for them.

THE MIDWIVES BILL, 1902.

THE following is the text of the Midwives Bill, 1902, which was issued on Feb. 13th. It is prepared and brought in by Lord Cecil Manners, Mr. Tatton Egerton, Mr. Schwann, Mr. Parker Smith, Sir Savile Crossley, Mr. Eugene Wason, Mr. Tennant, and Mr. Heywood Johnstone.

MIDWIVES BILL.

ARRANGEMENT OF CLAUSES.

Clause.
1. Short title and commencement.
2. Certification.
3. Provisions for existing midwives.
4. Constitution and duties of the Central Midwives Board.
5. Fees and expenses.
6. Midwives roll.
7. Appointment of secretary and supplemental provision as to certificate.
8. Local supervision of midwives.
9. Delegation of powers to district councils.
10. Notification of practice.
11. Penalty for obtaining a certificate by false representation.
12. Penalty for wilful falsification of the roll.
13. Prosecution of offences.
14. Appeal.
15. Expenses of local supervising authority.
16. Act not to apply to medical practitioners.
17. Extent of Act and action by English Branch Council.
18. Definitions.

A BILL TO SECURE THE BETTER TRAINING OF MIDWIVES AND TO REGULATE THEIR PRACTICE.

Be it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. *Short title and commencement.*—This Act may be cited as the Midwives Act, 1902. It shall, except as otherwise provided by this Act, come into operation on the first day of April, one thousand nine hundred and three.

2. *Certification.*—(1) From and after the first day of January, one thousand nine hundred and five, no woman shall be entitled to take or use the name or title of midwife (either alone or in combination with any other word or words), or any name, title, addition, or description implying that she is certified under this Act, or is recognised by law as a midwife unless she be certified under this Act.

(2) Any woman who, after the first day of January, one thousand nine hundred and five, not being certified under this Act, shall take or use the name of midwife or any other such name, title, addition, or description as aforesaid, shall be liable on summary conviction to a fine not exceeding five pounds.

(3) No woman shall be certified under this Act until she has complied with the rules and regulations to be laid down in pursuance of this Act.

(4) No woman certified under this Act shall employ an uncertified person as her substitute.

(5) The certificate under this Act shall not confer upon any woman any right or title to be registered under the Medical Acts or to assume any name, title, or designation implying that she is by law recognised as a medical practitioner, or that she is authorised to grant any medical certificate, or any certificate of death or of stillbirth, or to undertake the charge of cases of abnormality or disease in connexion with parturition.

3. *Provision for existing midwives.*—Any woman who within two years from the date of this Act coming into operation claims to be certified under this Act shall be so certified provided she holds a certificate in midwifery from the Royal College of Physicians of Ireland, or from the Obstetrical Society of London, or such other certificate as may be approved by the Central Midwives Board, or produces evidence satisfactory to the Board, that at the passing of this Act she has been in *bonâ-fide* practice as a midwife and that she bears a good character.

4. *Constitution and duties of the Central Midwives Board.*—On the passing of this Act the Lord President of the Council shall take steps to secure the formation of a Central Midwives Board, which shall consist of—

(1) Four registered medical practitioners—one to be appointed by the Royal College of Physicians of London, one by the Royal College of Surgeons of England, one by the Society of Apothecaries, and one by the Incorporated Midwives Institute;
(2) Two persons (one of whom shall be a woman) to be appointed for terms of three years by the Lord President of the Council; and
(3) One person to be appointed for a term of three years by the Association of County Councils.

After two years from the commencement of this Act the members appointed under sub-section (1) shall retire, but shall be eligible for re-appointment annually. Any vacancy occurring by resignation or death shall be filled up in the case of a member appointed under sub-sections (1) and (3) by the body which appointed him, and in the case of a member appointed under sub-section (2) by the Lord President of the Council.

The duties and powers of the Board shall be as follows:

I. To frame rules, subject to the approval of the Privy Council, after consultation with the General Medical Council,
(*a*) regulating the issue of certificates and the conditions of admission to the roll of midwives;
(*b*) regulating the course of training and the conduct of examinations;
(*c*) regulating the admission to the roll of women already in practice as midwives at the passing of this Act;
(*d*) regulating, supervising, and restricting within due limits, the practice of midwives;
(*e*) deciding the conditions under which midwives may be suspended from practice;
(*f*) defining the particulars required to be given in any notice under Section 10 of this Act.
II. To appoint examiners.
III. To decide upon the places where, and the times when, examinations shall be held.
IV. To publish annually a roll of midwives who have been duly certified under this Act.
V. To decide upon the removal from the roll of the name of any midwife for disobeying the rules and regulations from time to time laid down under this Act by the Central Midwives Board, or for other misconduct, and also to decide upon the restoration to the roll of the name of any midwife so removed.
VI. To issue certificates.
And generally to do any other act or duty which may be necessary for the due and proper carrying out of the provisions of this Act.

5. *Fees and Expenses.*—There shall be payable by every woman presenting herself for examination or certificate such fee as the Central Midwives Board may, with the approval of the Privy Council, from time to time determine, such fee not to exceed the sum of 10s. All such fees paid by midwives in practice at the passing of this Act and by candidates for examination shall be paid to the Central Midwives Board. The said Board shall devote such fees to the payment of expenses connected with the examination and certificate and to the general expenses of the Board. The Board shall, as soon as practicable after the thirty-first day of December in each year, publish a financial statement made up to that date, and certified by a chartered accountant as correct, showing the receipts and expenditure, including liabilities of the Board during the year. The Board may apportion between the councils of the several counties and county boroughs any balance against the Board shown in the financial statement in proportion to the number of midwives who have given notice during the year of their intention to practise in those areas respectively, and may recover from the councils the sum so apportioned.

6. *Midwives roll.*—There shall be a roll of midwives containing

(1) The names of those midwives practising at the date of the passing of this Act who have been certified under this Act;
(2) the names of those not already in practice as midwives at the passing of this Act, but who have been certified under this Act.

The entry on the roll shall in every case indicate the conditions in virtue of which the certificate was granted.

7. *Appointment of secretary and supplemental provision as to certificate.*—The Central Midwives Board shall appoint a secretary who shall be charged with the custody of the roll, and every person so appointed shall be paid such salary as the Board shall think fit, and shall be removable at the pleasure of the Board.

A copy of the roll of midwives purporting to be printed by the authority of the Board or to be signed by the secretary to the Board shall be evidence in all courts that the women therein specified are certified under this Act; and the absence of the name of any woman from such copy shall be evidence, until the contrary be made to appear, that such woman is not certified under this Act. Provided always, that in the case of any woman whose name does not appear in such copy, a certificate under the hand of the secretary of the entry of the name of such woman on the roll shall be evidence that such woman is certified under this Act.

8. *Local supervision of midwives.*—Every council of a county or county borough throughout England and Wales shall, on the commencement of this Act, be the local supervising authority over midwives within the area of the said county or county borough. It shall be the duty of the local supervising authority—

(1) To exercise general supervision over all midwives practising within their area in accordance with the rules to be laid down under this Act.
(2) To investigate charges of malpractice, negligence, or misconduct

on the part of any midwife practising within their area, and should a *primâ facie* case be established to report the same to the Central Midwives Board.

(3) To suspend any midwife from practice, in accordance with the rules under this Act, if such suspension appears necessary.

(4) To report at once to the said Board the name of any midwife practising in their area convicted of an offence.

(5) During the month of January of each year to supply the secretary of the Central Midwives Board with the names and addresses of all midwives who have notified their intention to practise within their area and to keep a current copy of the roll of midwives accessible at all reasonable times for public inspection.

(6) To report at once to the Central Midwives Board the death of any midwife or any change in the name or address of any midwife in their area, so that the necessary alteration may be made in the roll.

(7) To give due notice of the effect of the Act to persons at present using the title of midwife.

The local supervising authority may delegate, with or without any restrictions or conditions as they may think fit, any powers or duties conferred or imposed upon them by or in pursuance of this Act to a committee appointed by them, and consisting either wholly or partly of members of the council, and the provisions of subsections one and two of Section 82 of the Local Government Act, 1888, shall apply to every committee appointed under this section and to every council appointing the same, and women shall be eligible to serve on any such committees.

9. *Delegation of powers to district councils.*—A county council may delegate, with or without any restrictions or conditions as they may think fit, any powers or duties conferred or imposed upon them by or in pursuance of this Act, to any district council within the area of the county, and the powers and duties so delegated may be exercised by a committee appointed by such district council, and consisting either wholly or partly of members of the district council, and women shall be eligible to serve on any such committee. Any expenses incurred by a district council in the execution of any powers or duties so delegated shall, to an amount not exceeding such sum as may be prescribed by the county council, be repaid to such district council as a debt by the county council, and any excess above the sum so prescribed shall be borne by the district council as part of their ordinary expenses.

The provisions of this section shall apply to the administrative county of London in like manner as if each metropolitan borough were a county district and the borough council were the district council of that district.

10. *Notification of practice.*—Every woman certified under this Act shall, before holding herself out as a practising midwife or commencing to practise as a midwife in any area, give notice in writing of her intention so to do to the local supervising authority, or to the body to whom for the time being the powers and duties of the local supervising authority shall have been delegated under this Act.

Such notice shall be given to the local supervising authority of the area within which such woman usually resides or carries on her practice, and the like notice shall be given to every other local supervising authority or delegated body within whose area such woman at any time practises or acts as a midwife, within 48 hours at the latest after she commences so to practise or act.

Every such notice shall contain such particulars as may be required by the rules under this Act to secure the identification of the person giving it; and if any woman omits to give the said notices or any of them, or knowingly or wilfully makes or causes or procures any other person to make any false statement in any such notice, she shall be guilty of a misdemeanour, and shall on conviction thereof be liable to a fine not exceeding £5.

11. *Penalty for obtaining a certificate by false representation.*—Any woman who procures or attempts to procure a certificate under this Act by making or producing, or causing to be made or produced, any false and fraudulent declaration, certificate, or representation, either in writing or otherwise, shall be guilty of a misdemeanour, and shall on conviction thereof be liable to be imprisoned, with or without hard labour, for any term not exceeding 12 months.

12. *Penalty for wilful falsification of the roll.*—Any person wilfully making or causing to be made any falsification in any matter relating to the roll of midwives shall be guilty of a misdemeanour, and shall be liable to be imprisoned with or without hard labour for any term not exceeding 12 months.

13. *Prosecution of offences.*—Any offences under this Act punishable on summary conviction may be prosecuted by the local supervising authority.

The expenses of any such prosecution shall be defrayed by the council of the county or county borough in which the prosecution takes place.

14. *Appeal.*—Where any woman deems herself aggrieved by any determination of any court of summary jurisdiction under this Act, such woman may appeal therefrom to the court of quarter sessions.

15. *Expenses of local supervising authority.*—Any expenses under this Act payable by the council of a county or county borough shall be defrayed out of the county fund or out of the borough fund or borough rate, as the case may be.

16. *Act not to apply to medical practitioners.*—Nothing in this Act respecting midwives shall apply to legally-qualified medical practitioners.

17. *Extent of Act and action by English Branch Council.*—This Act shall not extend to Scotland or Ireland.

The General Medical Council shall act by the English Branch Council, which for all purposes of this Act shall occupy the place of the General Medical Council.

18. *Definitions.*—In this Act—

The term "midwife" means a woman who is certified under this Act.

"Central Midwives Board" means the Board constituted under this Act for the purpose of carrying out the provisions of this Act.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary meeting of the Comitia was held on Tuesday, Feb. 18th, Sir WILLIAM SELBY CHURCH, the President, being in the chair.

A gracious reply was received from His Majesty the King, thanking the President and Fellows of the College for the resolution adopted at the last meeting and for the loyal words in which they alluded to His Majesty.

The PRESIDENT announced that in consequence of the Coronation the Croonian Lectures would be given a week earlier than was announced in the calendar (the revised dates are June 10th, 12th, 24th, and 26th). The President also announced that an intimation had been received from the Privy Council to the effect that the Egyptian Medical Congress would be held from Sept. 19th–23rd.

The following communications were received: (1) From the Secretary of the College of Surgeons reporting certain proceedings of their Council on Feb. 13th; (2) from the Sanitary Institute, inviting the College to send delegates to the annual congress to be held at Manchester on Sept. 9th (the President nominated Dr. G. V. Poore and Dr. W. H. Corfield); and (3) from the Clerk to the Management Committee of the Chelsea Physic Garden, inviting the College to appoint a member of the committee for a term of four years (the President nominated Dr. W. Cayley).

The PRESIDENT then dissolved the Comitia.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8456 births and 6451 deaths were registered during the week ending Feb. 15th. The annual rate of mortality in these towns, which had been 17·7, 17·9, and 20·6 per 1000 in the three preceding weeks, further rose last week to 22·6 per 1000. In London the death-rate was 25·9 per 1000, while it averaged 21·2 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 11·7 in Hornsey, 12·2 in Handsworth, 12·5 in East Ham, 13·4 in Barrow-in-Furness, 13·9 in Walthamstow, and 14·1 in Portsmouth and in Reading; the highest rates were 26·7 in Norwich, 26·8 in Liverpool, 27·3 in South Shields, 27·5 in Preston, 29·7 in St. Helens, 29·9 in Rhondda, 31·0 in Merthyr Tydfil, and 31·3 in Burnley. The 6451 deaths in these towns last week included 525 which were referred to the principal zymotic diseases, against 444 and 584 in the two preceding weeks; of these 525 deaths 134 resulted from whooping-cough, 124 from measles, 76 from diphtheria, 60 from small-pox, 52 from scarlet fever, 46 from "fever" (principally enteric), and 33 from diarrhœa. No death from any of these diseases occurred last week in Hastings, Portsmouth, Ipswich, Devonport, Handsworth, Smethwick, Bury, Rochdale, or Barrow-in-Furness; while the highest zymotic death-rates were recorded in Tottenham, Hanley, Birmingham, Leicester, St. Helens, Burnley, Stockton-on-Tees, and South Shields. The greatest proportional mortality from measles occurred in Croydon, Southampton, St. Helens, Warrington, Burnley, Blackburn, Huddersfield, Sheffield, and York; from diphtheria in Hanley and St. Helens; from whooping-cough in Leyton, Birmingham, Aston Manor, Liverpool, Leeds, Stockton-on-Tees, South Shields, and Rhondda; and from "fever" in Sunderland. The mortality from scarlet fever showed no marked excess in any of the large towns. Of the 60 fatal cases of small-pox last week 54 belonged to London, three to Tottenham, and one each to West Ham, East Ham, and Plymouth. There were 1185 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, Feb. 15th, against 870, 1135, and 1102 at the end of the three preceding weeks: 390 new cases were admitted during the week, against 204, 499, and 287 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had decreased from 3137 to 2500 on the seven preceding Saturdays, further declined to 2455 at the end of last week; 260 new cases were admitted during the week, against 299, 226, and 277 in the three preceding weeks. Influenza was certified as the primary cause of 51 deaths in London last week, against 18, 26, and 40 in the

three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 357, 375, and 486 in the three preceding weeks, further rose last week to 681, and were 213 above the corrected average. The causes of 89, or 1·4 per cent., of the deaths in the 76 large towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Hull, Newcastle, and in 35 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Aston Manor, Liverpool, St. Helens, Rotherham, Middlesbrough, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3, 21·8, and 23·9 per 1000 in the three preceding weeks, declined again to 23·6 per 1000 during the week ending Feb. 15th, but was 1·0 per 1000 above the mean rate during the same period in the 76 large English towns. Among these Scotch towns the death-rates ranged from 12·5 in Perth and 19·5 in Aberdeen to 25·1 in Leith and 25·2 in Glasgow. The 761 deaths in these towns included 20 which were referred to whooping-cough, 16 to diarrhœa, 12 to measles, 10 to "fever," three to scarlet fever, three to diphtheria, and two to small-pox. In all 66 deaths resulted from these principal zymotic diseases last week, against 66 and 83 in the two preceding weeks. These 66 deaths were equal to an annual rate of 2·0 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 19 and 17 in the two preceding weeks, rose again last week to 20, of which 10 occurred in Glasgow, three in Paisley, and three in Leith. The deaths from diarrhœa, which had been 20, eight, and 23 in the three preceding weeks, declined again to 16 last week, and included six in Dundee, five in Glasgow, and two in Edinburgh. The fatal cases of measles, which had been 31, 23, and 19 in the three preceding weeks, further decreased last week to 12, of which eight were registered in Glasgow and two in Dundee. The deaths referred to different forms of "fever," which had been three and five in the two preceding weeks, further rose to 10 last week, and included five in Glasgow, three in Edinburgh, and two in Greenock. The fatal cases of scarlet fever, which had been four, seven and 10 in the three preceding weeks, declined again last week to three, of which two were registered in Greenock. The deaths from diphtheria, which had been five and eight in the two preceding weeks, decreased to three last week, and included two in Glasgow, where the two fatal cases of small-pox were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 128, 141, and 173 in the three preceding weeks, further rose last week to 211, and were 58 in excess of the number in the corresponding period of last year. The causes of 26, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·9, 22·7, and 23·8 per 1000 in the three preceding weeks, rose again to 25·7 per 1000 during the week ending Feb. 15th. During the past four weeks the death-rate has averaged 23·3 per 1000, the rates during the same period being 21·3 in London and 21·4 in Edinburgh. The 187 deaths of persons belonging to Dublin registered during the week under notice showed an excess of 14 over the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against eight, four, and five in the three preceding weeks; of these, three resulted from measles, three from whooping-cough, two from "fever," two from diarrhœa, and one from scarlet fever. These 11 deaths were equal to an annual rate of 1·5 per 1000, the zymotic death-rates during the same period being 2·4 in London and 1·1 in Edinburgh. The deaths from whooping-cough, which had been one and two in the two preceding weeks, further rose last week to three. The 187 deaths in Dublin last week included 22 of children under one year of age and 60 of persons aged upwards of 60 years; the deaths of infants showed a slight decline from the number in the preceding week, while those of elderly persons were considerably in excess. Five inquest cases and seven deaths from violence were registered; and 71, or nearly two-fifths, of the deaths occurred in public institutions. The causes of 12, or more than 6 per cent., of the deaths in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1902.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the cities and boroughs in the county of London. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 11·4 per 1000 of the population, estimated at 4,579,107 in the middle of this year. In the three preceding months the rates had been 13·8, 11·6, and 10·6 per 1000 respectively. The rates were considerably below the average in Kensington, Chelsea, Hampstead, Wandsworth, and Woolwich, while they showed the largest excess in St. Pancras, Holborn, Bethnal Green, Stepney, Poplar, and Deptford. During the five weeks ending Feb. 1st, 1385 cases of small-pox were notified, showing a further considerable increase over the numbers in recent months; the greatest proportional prevalence of this disease was in the City of Westminster, St. Pancras, Holborn, Shoreditch, and Stepney. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 284, 427, and 666 at the end of the three preceding months, had further risen to 1135 at the end of January; the weekly admissions averaged 297, against 72, 110, and 173 in the three preceding months. The prevalence of scarlet fever during January showed a marked decline from that recorded in any recent month; among the various metropolitan boroughs this disease was proportionally most prevalent in Stoke Newington, Poplar, Battersea, Camberwell, and Deptford. The Metropolitan Asylums hospitals contained 2501 scarlet fever patients at the end of the month, against 3281, 3186, and 3080 at the end of the three preceding months; the weekly admissions averaged 266, against 392, 352, and 297 in the three preceding months. Diphtheria was slightly less prevalent during last month than in any of the three preceding months; the greatest proportional prevalence of this disease occurred in Fulham, St. Pancras, Islington, Hackney, Bethnal Green, and Lewisham. There were 1231 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 1570, 1504, and 1369 at the end of the three preceding months; the weekly admissions averaged 167, against 243, 200, and 160 in the three preceding months. The prevalence of enteric fever showed a considerable decline from that recorded in the preceding month; among the various metropolitan boroughs this disease was most prevalent in the City of Westminster, Islington, Holborn, Shoreditch, Stepney, Poplar, and Bermondsey. The number of enteric fever patients under treatment in the Metropolitan Asylums hospitals, which had been 291, 245, and 195 at the end of the three preceding months, had further declined to 128 at the end of January; the weekly admissions averaged 18, against 38, 32, and 21 in the three preceding months. Erysipelas was proportionally most prevalent in Hammersmith, Hackney, Shoreditch, Southwark, and Deptford. The 42 fatal cases of puerperal fever included five in Lambeth, five in Hackney, four in St. Marylebone, four in Wandsworth, three in Stepney, and three in Lewisham.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in the public institutions of London having been distributed among the boroughs in which the deceased persons had previously resided. During the five weeks ending Feb. 1st the deaths of 8021 persons belonging to London were registered, equal to an annual rate of 18·3 per 1000, against 15·4, 20·0, and 18·8 per 1000 in the three preceding months. The lowest death-rates last month in the various metropolitan boroughs were 12·0 in Hampstead, 13·6 in Wandsworth, 15·1 in Battersea, 15·2 in Lewisham, 15·4 in Kensington, and 15·5 in Stoke Newington; the highest rates were 21·2 in Shoreditch, 21·3 in Bermondsey, 22·4 in Bethnal Green, 22·8 in the City of London, 23·9 in Holborn, and 24·0 in Finsbury. The 8021 deaths from all causes included 839 which were referred to the principal zymotic diseases; of these 201 resulted from small-pox, 234 from measles, 67 from scarlet fever, 132 from diphtheria, 111 from whooping-cough, 36 from enteric fever, and 58 from diarrhœa. The lowest death-rates from these

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1902.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1902.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 person living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 person living.			
LONDON	4,579,107	1385	1718	1144	—	210	—	42	527	—	5026	11·4	201	234	67	132	111	—	36	—	58	839	1·9	8021	18·3	121
West Districts.																									
Paddington	146,107	21	31	40	—	5	—	—	15	—	112	8·0	2	21	1	3	—	—	2	—	2	31	2·2	222	16·0	173
Kensington	177,606	17	40	27	—	8	—	2	23	—	117	6·9	2	21	4	5	—	—	2	—	—	34	2·0	263	15·4	132
Hammersmith	114,210	29	29	14	—	1	—	—	18	—	91	8·3	6	14	—	2	—	—	—	—	3	25	2·3	213	19·5	128
Fulham	143,102	21	38	48	—	2	—	—	8	—	117	8·5	2	15	5	7	2	—	2	—	3	36	2·6	242	17·6	105
Chelsea	74,018	5	17	5	—	3	—	—	2	—	32	4·5	—	1	—	1	1	—	1	—	2	6	0·8	137	19·3	106
City of Westminster	180,800	92	40	27	—	11	—	1	17	—	188	10·8	16	14	—	3	1	—	—	—	5	39	2·2	336	19·4	125
North Districts.																									
St. Marylebone	132,069	41	29	31	—	5	—	4	20	—	130	10·3	4	6	2	2	1	—	3	—	2	20	1·6	243	19·2	88
Hampstead	83,743	3	35	9	—	4	—	1	3	—	56	6·8	1	—	1	1	—	—	2	—	1	6	0·7	96	12·0	71
St. Pancras	235,596	102	107	85	—	9	—	2	26	—	331	14·7	17	13	6	11	5	—	4	—	2	58	2·6	417	18·5	137
Islington	337,268	45	142	134	—	18	—	1	29	—	369	11·4	7	33	7	20	8	—	4	—	5	84	2·6	620	19·2	123
Stoke Newington	51,700	15	30	14	—	1	—	1	4	—	65	13·1	2	1	1	—	1	—	—	—	1	6	1·2	77	15·5	169
Hackney	221,926	58	85	73	—	11	—	5	37	—	269	12·6	11	9	1	10	5	—	—	—	1	37	1·7	363	17·1	116
Central Districts.																									
Holborn	58,535	109	13	15	—	4	—	1	9	—	151	26·9	27	—	2	2	2	—	1	—	—	34	6·1	134	23·9	130
Finsbury	100,487	44	34	31	—	4	—	—	9	—	122	12·7	8	9	—	4	3	—	2	—	2	28	2·9	231	24·0	124
City of London	25,598	7	12	3	—	—	—	—	2	—	24	9·8	2	—	—	1	—	—	—	—	—	3	1·2	56	22·8	220
East Districts.																									
Shoreditch	117,980	83	29	20	—	7	—	—	19	—	158	14·0	3	10	—	1	7	—	—	—	4	25	2·2	240	21·2	169
Bethnal Green	129,889	53	58	57	—	5	—	2	19	—	194	15·6	5	7	3	5	8	—	1	—	1	30	2·4	279	22·4	134
Stepney	300,551	235	76	82	—	21	—	3	34	—	451	15·6	33	10	5	10	12	—	3	—	3	76	2·6	608	21·1	106
Poplar	169,214	73	92	48	—	20	—	2	13	—	248	15·3	11	3	1	6	14	—	2	—	1	38	2·3	323	19·9	143
South Districts.																									
Southwark	206,825	79	96	52	—	10	—	—	41	—	278	14·0	13	7	5	7	5	—	1	—	3	41	2·1	397	20·0	140
Bermondsey	130,218	42	61	20	—	10	—	2	16	—	151	12·1	3	3	4	3	4	—	—	—	3	20	1·6	266	21·3	136
Lambeth	305,102	61	90	49	—	17	—	5	23	—	245	8·4	11	10	4	6	5	—	2	—	4	42	1·4	552	18·9	120
Battersea	171,401	45	94	28	—	5	—	2	17	—	191	11·6	6	7	3	1	2	—	—	—	1	20	1·2	249	15·1	109
Wandsworth	241,810	24	68	54	—	7	—	4	25	—	182	7·8	5	6	1	7	2	—	—	—	2	23	1·0	315	13·6	118
Camberwell	262,775	26	166	58	—	8	—	—	33	—	291	11·5	1	—	5	7	10	—	2	—	4	29	1·2	409	16·2	79
Deptford	111,577	16	82	27	—	4	—	—	26	—	155	14·5	—	—	2	2	1	—	2	—	1	8	0·7	167	15·6	93
Greenwich	98,013	11	45	20	—	—	—	—	12	—	88	9·4	—	3	2	2	2	—	—	—	—	9	1·0	169	18·0	137
Lewisham	132,432	2	51	49	—	5	—	3	16	—	126	9·9	—	1	—	2	8	—	—	—	1	12	0·9	193	15·2	104
Woolwich	119,556	22	28	23	—	3	—	1	11	—	88	7·7	3	10	2	1	2	—	—	—	1	19	1·7	204	17·8	123
Port of London	—	4	—	1	—	2	—	—	—	—	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

diseases were recorded in Chelsea, Hampstead, Wandsworth, Deptford, Greenwich, and Lewisham; and the highest rates in Fulham, St. Pancras, Islington, Holborn, Finsbury, and Stepney. The 201 fatal cases of small-pox considerably exceeded the numbers in recent months; the greatest proportional mortality from this disease occurred in the City of Westminster, St. Pancras, Holborn, Finsbury, and Stepney. The 234 deaths from measles showed a slight decrease from the average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Paddington, Kensington, Hammersmith, Fulham, and Islington. The 67 fatal cases of scarlet fever showed a marked decline from the corrected average number; the greatest proportional fatality from this disease occurred in Fulham, St. Pancras, Southwark, and Bermondsey. The 132 deaths from diphtheria were 87 below the average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, St. Pancras, Islington, Hackney, Finsbury, and Bethnal Green. The 111 fatal cases of whooping-cough were equal to only about one-third of the corrected average number; this disease showed the highest proportional fatality in Shoreditch, Bethnal Green, Stepney, Poplar, and Lewisham. The 36 deaths referred to enteric fever were 30 below the average in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs the "fever" death-rate was highest in St. Marylebone and St. Pancras. The 58 fatal cases of diarrhœa showed a considerable decline from the corrected average number; the greatest proportional fatality from this disease occurred in Hammersmith, Chelsea, the City of Westminster, Finsbury, Shoreditch, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last month from these diseases was nearly 15·6 per cent. below the average.

Infant mortality in London during January, measured by the proportion of deaths among children under one year of age to registered births, was equal to 121 per 1000. The lowest rates of infant mortality were recorded in Fulham, St. Marylebone, Hampstead, Camberwell, Deptford, and Lewisham; and the highest rates in Paddington, Stoke Newington, the City of London, Shoreditch, Poplar, and Southwark.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: E. H. Meaden to the *Bulwark* and A. J. Pickthorn to the *Ganges*. Surgeons: J. A. L. Campbell to the *Bulwark*; R. A. Kirby to the *Vernon*; A. Gaskell to Chatham Hospital, and C. R. Rickard to the *Boscawen*.

ROYAL ARMY MEDICAL CORPS.

1st Life Guards: Major Nicholas C. Ferguson, C.M.G., from Royal Army Medical Corps, to be Surgeon-Major. Dated Feb. 15th, 1902.

Lieutenant-Colonel John McLaughlin retires on retired pay on account of ill-health. Dated Feb. 19th, 1902.

The undermentioned Majors to be Lieutenant-Colonels (dated Feb. 4th, 1902):—William Dick, Francis John Jencken, Francis Harper Treherne, Samuel Foster Lougheed, C.M.G., John Courtenay Haslett, Herbert James Barratt, Herbert Ellison Rhodes James, Henry Octavius Trevor, Alexander Fraser Russell, C.M.G., Robert James Leech Fayle, D.S.O., John William Jerome, William Watson Pike, D.S.O., Lewis Haywood, James Murray Irwin, Ernest Octavius Wright, Francis Henry Merceron Burton, Charles Edward Nichol, and William Albert Morris.

Surgeon-Captain J. H. Stacey, Army Medical Reserve, assumes the duties of assistant to the medical officer in charge at Norwich. Lieutenant W. J. S. Harvey has been posted to the depôt at Aldershot for duty. Surgeon-Lieutenant Davies has left Aldershot for South Africa for duty with mounted infantry.

IMPERIAL YEOMANRY.

Dorset (Queen's Own) Surgeon-Captain W. Rendall resigns his commission, and is granted the rank of Surgeon-Major, with permission to wear the uniform of the regiment, on retirement. Surgeon-Lieutenant Lloyd John Hollis Oldmeadow, from 2nd Volunteer Battalion the Royal Fusiliers, to be Surgeon-Lieutenant. Charters James Symonds to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Ayrshire and Galloway: Surgeon-Major J. Thomson to be Surgeon-Lieutenant-Colonel. 1st Worcestershire: Surgeon-Lieutenant A. C Oldham to be Surgeon-Captain. *Rifle:* 1st Dumbartonshire: Surgeon-Lieutenant J. R. Foulds resigns his commission. 1st Volunteer Battalion the Buffs (East Kent Regiment): Surgeon-Lieutenant L. A. E. Larking to be Surgeon-Captain. 2nd Cadet Battalion the King's (Liverpool Regiment): the appointment of Henry James Bailey as Surgeon-Lieutenant, announced in the *London Gazette* of Jan. 17th, 1902, is cancelled at his own request.

SOUTH AFRICAN WAR NOTES.

Lieutenant M. F. Foulds, R.A.M.C. (invalided), Lieutenant-Colonel S. Townsend, R.A.M.C., Civil Surgeon W. B. Bannerman, Civil Surgeon R. Brown, Civil Surgeon A. J. Knowlton, Civil Surgeon Ganvie (invalided), and Civil Surgeon I. Blore (invalided), are returning to England in the *Avoca* which left Port Natal on Feb. 7th.

Civil SurgeonPenn is reported to be improving (Feb. 13th).

A FRENCH SURGEON'S VISIT TO THE EXPEDITIONARY FORCE HOSPITALS AT PEKING.

In the course of what he modestly styles "une simple promenade" through the several hospital establishments of the international expeditionary force at Peking in January, 1901, Dr. Machenaud, principal medical officer of the French military hospital in the Chinese capital, took note of many interesting details, and has recorded his impressions in a paper which appears in the *Archives de Médecine Navale* for last December. The first hospital visited was that belonging to the American troops who were cantoned in the Palace of Agriculture, opposite the Palace of Heaven, which was occupied by the British, the terminus of the Peking and Tientsin railway separating the two cantonments. The American hospital was accommodated suitably enough in one of the pavilions of the palace, and contained 100 beds, the staff consisting of Chief Surgeon-Major Yves and two assistants. On the day Dr. Machenaud paid his visit there were 43 patients, and among them he was told that there was not a single case of typhoid fever. The establishment and everything connected with it seem to have met with the visitor's unqualified admiration, the installation and equipment being as near perfection as possible. In the first place Dr. Machenaud was shown the dispensary, and the drugs, which were all compressed, were found to be in perfect condition; chloral and salol alone, amongst a complete assortment of medicines, being found liable to deterioration after the opening of their flacons. In a little case, the same size as the volume containing the Regulations for his service, Dr. Machenaud saw the pharmaceutical and surgical supply of a battalion for three months. In addition to thermometer, hypodermic syringe, "and all the usual instruments," there were about 40 little flasks full of compressed tablets, besides "pastilles" for subcutaneous injection. Nothing could be more portable. The case might be carried in the pocket of the medical officer who could not but feel satisfaction at having an adequate armament available at the shortest notice. Compressed tampons, sterilised silk and catgut, an apparatus for distilling and aerating water on a large scale, a portable kitchener, portable table equipment, a petroleum stove for keeping foods and drinks warm, folding chairs, besides several other things which struck the visitor as exceptionally meritorious, are described at considerable length but can only be alluded to here. Dr. Machenaud was also favourably impressed by a hypodermic syringe which certainly seems well adapted for the rough usage of military service. It consists of two metal cylinders, one hollow and the other solid. The latter fits the former accurately and is graduated to show the amount of fluid injected. There is no glass to break or piston to get out of order, and perfect disinfection can be assured by plunging into boiling water. The British "ambulance," which was the objective of Dr. Machenaud's second visit, had the advantage of being splendidly housed, but the visitor has little to say that is complimentary. It is true that he deals chiefly in generalities, but evidently our hospital at Peking was far from perfect in his estimation. The material sent from India appeared to him to be incongruous (*disparate*) and to be

composed of old trash (*vieilleries*). The ventilation of the wards was defective and the warming by means of stoves could not be commended. Dr. Machenaud also says that there was no operation room (*salle de chirurgie*), and adds that no one showed him a bath-room, or a kitchen, or any reserve of material. In the Japanese hospital, with a strength of 3500 men, there were only 33 patients, mostly convalescents from typhoid fever and bronchitis. The equipment, surgical as well as medical, was very complete. all the instruments and appliances having been manufactured in Japan, although the drugs were imported from Hamburg. Hory's apparatus for detecting cheating in recruits by means of prismatic glasses and coloured letters was included in the ophthalmic armament, which in other respects was very well supplied. When leaving the hospital Dr. Machenaud and his companions were much interested in the care their Japanese *confrères* took to wipe their feet on wet mats at the doors of the building. These mats, it seemed, were impregnated with a germicide solution, and the object of the attrition was to free the feet from any noxious microbes that might have been picked up while walking the hospital. The fourth and last establishment on the list was the German Field Hospital, No. 2. Here, in the opinion of the French visitor, everything was comparatively good, although not equal to the perfection of the American ambulance.

INDIAN MEDICAL SERVICE.

The following is a list of the candidates for His Majesty's Indian Medical Service who were successful at the competitive examination held in London on Feb. 10th and following days. 30 candidates have been passed, instead of 17 as previously announced.

	Marks.		Marks.
Macpherson, J.	3210	Hallilay, H.	2629
Ross, W. C.	3086	Wilson, F. E.	2610
Kunhardt, J. C. G. ...	3051	Paymaster, B. B.	2577
Franklin, G. D.	3026	Crossle, H.	2560
Gill, J. H.	3011	Cook, L.	2546
Lloyd, R.A.	2878	Forrest, J.	2490
Barnardo, F. A. F.	2870	Scott, L. B.	2483
Gourlay, C. A.	2853	Ferriss, J. H.	2456
Walker, E. A.	2750	Patton, W. S.	2445
Sime, F. W.	2746	Mackworth, N. W.	2409
Hirsch, L. L.	2713	Trafford, W. L....	2393
Ross, H.	2684	Rundall, L....	2365
Batty, H. E. J.	2666	Maunsell, E. C. C.	2342
Davys, G. J.	2656	Robertson, G. C. I.	2277
Betts, A. J. V.	2650	O'Keefe, D. S. A.	2062

THE NEW DESIGNATION FOR THE VOLUNTEER MEDICAL STAFF CORPS.

A correspondent writes: "There are, according to the Army List (January), one artillery volunteer medical officer, one engineer volunteer medical officer, one yeomanry medical officer, and eight regimental volunteer medical officers serving with the Royal Army Medical Corps, as against two only of the Volunteer Medical Staff Corps. Surely if the services of the Volunteer Medical Staff Corps merits its new designation and change of titles the other medical officers have earned for themselves and their colleagues—if the change from a professional to a combatant title is a compliment—a right to omit, if only for the sake of uniformity, the prefix of 'surgeon' when describing their rank."

MEMORIAL TO THE LATE SURGEON-GENERAL HARVEY, C.B.

It has been decided to start a subscription list for a memorial to the late Surgeon-General Robert Harvey, C.B. Director-General, Indian Medical Service, but the exact form of the memorial will not be decided till the subscription list is complete. In the meantime subscriptions should be sent to the Editor, *Indian Medical Gazette*, care of Messrs. Thacker, Spink, and Co., Calcutta, by whom they will be duly acknowledged.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.—The annual meeting of the subscribers to this institution was held on Feb. 7th, under the presidency of Mr. J. C. Williams. The medical report stated that 1349 in-patients had been admitted during 1901, an increase of 67 as compared with 1900. The out-patients numbered 2795, as against 2654 in the previous year. During the year 51 nurses and 282 patients were sent to the Pearn Convalescent Home. The average daily number of occupied beds in the hospital was 109. The financial statement showed that the total income amounted to £7453 and the total expenditure to £7706.

Correspondence.

"Audi alteram partem."

SURGICAL OPERATION FOR MITRAL STENOSIS.

To the Editors of THE LANCET.

SIRS,—I should feel very keenly the disapprobation of my suggestion which your leading article of Feb. 15th seems to express were it not that it seems to me that it has been written under a certain amount of misapprehension in regard both to my object and experiments. I fear my preliminary note to THE LANCET of Feb. 8th has not been sufficiently explicit, for I have no intention whatever of leaving to other workers to prove or disprove the value of the treatment I have suggested. I have just obtained a renewal of my licence and certificates and hope ere long to put my idea to experimental proof on the living animal, but "art is long and time is fleeting," and in the meanwhile many patients are suffering and dying from mitral stenosis. I cannot hope from my own experiments alone to prove the advisability of an operation against which, as stated in your leader, so many *a priori* arguments can be brought, and therefore hope that others will take up the subject as well as myself. I am quite aware of the responsibility that rests upon me for my suggestion, but I must state that while my experiments on the valves were made only on dead animals my knowledge of the manipulation of the living heart and of the effect upon it of wounds and punctures is based upon very numerous experiments made at intervals during the last 35 years. Some of these at least have, as I believe, borne good fruit. I do not wish to claim any credit which does not belong to me, and if I am wrong I shall be glad to be corrected, but I believe that the use of strychnine as a cardiac stimulant which is now so common in this country, although still neglected abroad, dates from an experiment made by Dr. Cash and myself on the injection of strychnine into the interior of the frog's heart.[1] This showed so clearly the stimulating effect of the drug upon the heart that I have lectured upon it in my course of pharmacology and therapeutics at St. Bartholomew's Hospital every year since, and I think it is from this hospital that the practice of using strychnine both as a cardiac and respiratory stimulant has spread, with the result, as I believe, of saving many lives.

I am, Sirs, yours faithfully,

Stratford-place, W., Feb. 15th, 1902. LAUDER BRUNTON.

To the Editors of THE LANCET.

SIRS,—Referring to the preliminary note on the possibility of treating mitral stenosis by surgical methods by Sir Lauder Brunton in THE LANCET of Feb. 8th, p. 352, it may interest your readers to know that this suggestion was made by me to my colleague, Dr. Lauriston Shaw, some years ago. I then went into the matter fully, both as to the surgical measures to be adopted and the physical conditions of the valve which seemed most suitable for such interference, and was quite prepared to act as soon as Dr. Shaw succeeded in finding a case likely to derive benefit. It was entirely due to his perhaps wise caution that the operation has not yet been performed by me. The method by which I proposed to divide the contracted valve through the ventricle was practically identical with that described by Sir Lauder Brunton. Personally I believe that the operation is feasible and, under certain circumstances, justifiable.

I am, Sirs, yours faithfully,

W. ARBUTHNOT LANE.

Cavendish-square, W., Feb. 15th, 1902.

To the Editors of THE LANCET.

SIRS,—In your leading article upon the suggestion by Sir Lauder Brunton that it may be possible to operate upon some cases of mitral stenosis you give several reasons why such an operation is likely to fail. It seems to me that another may be added. Marked fibrosis of the cardiac muscle is found after death in many cases of mitral stenosis and it

[1] St. Bartholomew's Hospital Reports for 1881, vol. xvi., p. 231.

is probable that the prognosis in this variety of valvular disease depends as much upon the condition of the heart-wall as upon the size of the mitral orifice. If the cardiac muscle remains healthy it is possible not only for life to be prolonged, but for the man or woman in whom the mitral orifice is narrowed to live an active life. For example, in an ostler, aged 64 years, who was busy at his work to within a few days of his death, which was caused by acute bronchitis, I found a mitral orifice which would only admit one finger.

[redacted] I am, Sirs, yours faithfully,
6, Feb. 18th, 1902. THEODORE FISHER.

To the Editors of THE LANCET.

SIRS,—The "preliminary note" suggesting the probable advisability of treating certain hopeless cases of mitral stenosis by dividing the constriction, which Sir Lauder Brunton published in THE LANCET of Feb. 8th, p. 352, merits, I think, serious consideration at the hands of experienced surgeons. In THE LANCET of April 2nd, 1898 (p. 927), I concluded a communication on Cardiac Peristalsis with these words, "I anticipate that with the progress of cardiac surgery some of the severest cases of mitral stenosis will be relieved by slightly notching the mitral orifice, and trusting to the auricle to continue its defence." Believing, as I there maintained, that the auricle, in cases of mitral stenosis has an important rôle in preventing regurgitation at the mitral, it seems to me probable that slightly notching the valve, though increasing the incompetence at the orifice, would not result in a greurgitation comparable in evil to the advantages gained by facilitating the onflow. It is, however, very important that the orifice should not be cut too freely. Sufficient stenosis should remain to render a prolonged contraction of the auricle necessary to fill adequately the ventricle, so that the auricular contraction may continue into ventricular-systolic time and help to prevent regurgitation at the mitral orifice. The question which Sir Lauder Brunton raises whether to elongate the natural opening or cut the valves transversely is a problem somewhat similar to "which foot should be drawn down in podalic version?" Probably in practice they may be congratulated who succeed with either.—I am, Sirs, yours faithfully,
Mentone, Feb. 12th, 1902. D. W. SAMWAYS.

UREA IN THE TREATMENT OF TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—The communications from Dr. H. Harper in THE LANCET of March 9th (p. 694), June 15th (p. 1672), and Dec. 7th (p. 1567), 1901, detailing his experience in the use of urea in tuberculosis have greatly interested me, especially as this same treatment was suggested, and to a certain extent employed, by Dr. Samuel G. Dixon of this city several years ago. Like Dr. Harper, Dr. Dixon appreciated the fact that certain animals and persons that had not had tuberculosis and that were not inoculated against it possessed a positive immunity to this disease and in seeking the reason for this independently observed that gout and tuberculosis do not often occur simultaneously in the same subject. That this latter fact had already been noted by Sir Dyce Duckworth, and perhaps by others, seems to have escaped the attention of both investigators at the time they were respectively convinced of the antagonism between the tuberculous and the gouty or rheumatic diathesis, though it must be remembered that Dr. Dixon referred to the first results of his experiments based on the theory of this antagonism very soon after the publication of Sir Dyce Duckworth's "Treatise on Gout," from which Dr. Harper quotes, and that in these experiments he used in turn each member of the group—creatin, urea, uric acid, taurin, &c.[1] Later, and because of its close resemblance to urea in formula, he used a vegetable derivative, thiosinamin, in combination and alternation with the above-mentioned nitrogenous metabolic products. It may be interesting to Dr. Harper and other readers of THE LANCET to know that Dr. Dixon always administered these substances subcutaneously and in comparatively small doses. Whether the larger amounts which seem to have been necessary when the urea was given by the mouth to Dr. Harper's patients were partially wasted in the economy because of the action of the digestive juices or of changes during absorption is a question for future investigation.

In addition to his successful experiments upon animals most favourable results were secured in several cases of long-continued and intractable disease, such as psoriasis, acne pustulosa, and lupus.[2] Unfortunately, the only cases of pulmonary tuberculosis in which he ventured to administer the nitrogenous substances were far advanced and of mixed infection, consequently negative rather than positive results were noted. This serves to confirm Dr. Harper's opinion concerning the administration of urea in such cases. Just at this time the election of Dr. Dixon to the presidency of the Academy of Natural Sciences of Philadelphia and other important offices and his consequent duties compelled him to postpone his experimental studies and up to the present time no leisure or opportunity for resuming them has come to him.

The above statements and the references noted will, I trust, be sufficient to establish the priority of Dr. Dixon in this line of work, though I am sure that the following quotation from one of his papers[3] will convince your readers not only of his appreciation of the breadth and extent of the problems involved, but also that no one is more ready than he to congratulate Dr. Harper upon his apparent success and to encourage his future labour in this direction:—

> However, I think that sufficient has been said to open up the very broad question as to whether the conditions that predispose to or favour the development of tuberculosis are not those of faulty, deficient, or abnormal nitrogenous metabolism, and whether the truly scientific method of obtaining immunity against this dread malady will not necessarily come through a thorough understanding of the processes involved and the changes that take place in the various cells and tissues of the body in so far as they are related to the assimilation, secretion, and excretion of nitrogen and nitrogenous compounds. Believing that this is largely so I would, therefore, suggest that future work carried on along the following lines promises to return good results and to lead to substantial ground on which we may base our hopes of eventually securing positive immunity. Such work should include, I think—
>
> 1. A systematic investigation as to the amount of nitrogen secreted by the healthy, the tuberculous, and the lithæmic, and the relative proportions of the various nitrogenous products in each case.
>
> 2. A tabulation of the clinical results from the systematic *hypodermic* administration of tuberculin, nucleins, and members of the amide group of metabolic products to healthy, tuberculous, and lithæmic subjects, preferably the same, if possible, as those in the first series of experiments; the results to include full reports as to temperature, secretion and excretion of nitrogen and nitrogen compounds, increase or decrease in white blood corpuscles, condition of subject, &c. A considerable amount of this work has been done but far more is needed. Collateral experiments upon animals would also have their place here and would be of value.
>
> 3. Experimentation as to special treatment or diets as would be indicated by a study of the results of the above series of experiments.
>
> Confident that such a work as indicated will be rich in returns to those that undertake it, and trusting that others may be induced by these remarks to join with me in carrying it out, either in general or in detail, I am sure that in whatever way immunity against tuberculosis is eventually secured it will be in very truth a blessing to humanity almost inconceivable and which will be measured least of all by the undying fame of its discoverers.

I am, Sirs, yours faithfully,
SENECA EGBERT, M.D.,
Professor of Hygiene in the Medico-Chirurgical College of Philadelphia, U.S.A.
Philadelphia, Jan. 11th, 1902.

THE DECEASED WIFE'S SISTER BILL.

To the Editors of THE LANCET.

SIRS,—I beg to urge the medical profession to show more interest in the Deceased Wife's Sister Bill. The influence of the profession is an acknowledged factor in public life, and I feel it to be a public duty to press for the removal of an awkward and useless clause in matrimonial law where, there being no blood relationship, conjugal union would be not only desirable but beneficial to the community, and to place the bar of prohibition against all blood-marriages—cousins within the third and fourth degree. I believe we should thus improve the status of the step mother and secure more satisfactory results from second marriages. Furthermore, by abolishing blood-marriages the constitution of many families would become amended.

I am, Sirs, your faithfully,
Stockport, Feb. 11th, 1902. J. GOOD.

[1] Reaction of the Amide Group upon the Wasting Animal Economy, Philadelphia Times and Register, September and October, 1890; also Proceedings of the Philadelphia Academy of Natural Sciences, Nov. 18th 1890.

[2] Proceedings of the Academy of Natural Sciences of Philadelphia Feb. 21st, 1893.

[3] Proceedings of the Academy of Natural Sciences, Philadelphia Nov. 6th, 1894; reprinted in the Therapeutic Gazette, Dec. 15th, 1894.

ACUTE SUFFOCATIVE PULMONARY ŒDEMA.

To the Editors of THE LANCET.

SIRS,—Under the title of "Acute Suffocative Pulmonary Œdema" some cases have been described by Dr. J. L. Steven and Mr. T. Lissaman in THE LANCET of Jan. 11th (p. 73) and Feb. 8th (p. 366) respectively. Dr. Steven states that with the exception of Dieulafoy he is unable to find in medical literature any adequate or satisfactory description of the condition. Mr. Lissaman states that he could find no description in any of the works at his disposal. The purport of this note is to point out that the characteristic symptoms have been very clearly described by Laennec. I cannot do better than give the quotation in full:—

"*Acute Suffocative Catarrh of Adults and Children.*—This variety does not appear to me to have hitherto sufficiently engaged the attention of physicians. It is very rare in adults. In young children it is more common and is often in them confounded with croup. It is recognised by the tracheal rhonchus perceptible by the naked ear, and by the imminent suffocation and frequent lividity of the face. The stethoscope detects, over the whole chest, a loud mucous (and very liquid) rhonchus, and a very frequent and usually irregular action of the heart. The disease is an acute catarrh affecting the whole, or a very large portion, of the mucous membrane of the lungs. Its duration is from 24 to 48 hours, or at most some days. At the end of this time either the patient dies or expectoration commences and puts an end to the suffocation, and the disorder then follows the progress of a simple acute catarrh. When the suffocation lasts there is but little cough, and the expectoration, if any, is altogether pituitous or fluid: it retains this character for some days at least, and then becomes more abundant; but recovery sometimes takes place without its ever becoming properly mucous, in which case the disease is only a variety of the acute bronchial phlegmorrhagy or pituitous catarrh. When, on the other hand, the expectoration becomes mucous, the disease is simply an ordinary acute catarrh, in which the suffocative character of the invasion is caused by the extent of tumefaction of the bronchial membrane and *by the great quantity of fluid secreted at once.*"

In this description we note more especially the extreme rarity of the condition in adults, the imminent suffocation and lividity, the very frequent pulse, the short duration of the symptoms, and the expectoration of a fluid secretion with but little cough. These are the points on which the writers of the articles have laid stress.

I am, Sirs, yours faithfully,

Henrietta-street, W., Feb. 11th, 1902. A. G. AULD.

THE DANGERS OF A COMMON COLD.

To the Editors of THE LANCET.

SIRS,—The letter on "The Dangers of a Common Cold" by Dr. R. P. White, in THE LANCET of Feb. 8th, p. 402, sets forth the common experience of the profession with regard to its rapid spread whatever its real nature may be. But how can we explain the fact that some are so susceptible while others never suffer? Since I began to study diet I have been astonished at the number of cases of which I have heard, even of medical men, who, by eating less and not so often, have found that their susceptibility to colds has quite gone. Such facts as I have met with point to the conclusion that it is the system overcharged with the products of food which was not required and can act only as a poison to every organ in the body, which is most susceptible to colds. If such be a correct conclusion it may help us to understand susceptibility as well as immunity, and it is a subject worthy of investigation.

I am, Sirs, yours faithfully,

JOHN HADDON, M.D. Edin.

Denholm, Hawick, Feb. 11th, 1902.

"WHAT'S WHAT."

To the Editors of THE LANCET.

SIRS,—As you have devoted a column of your valuable journal to the exposition of Mr. W. Watson Cheyne's point of view, and the correspondence he had with me with regard to the Appendix on London Medical Men in "What's What," I trust that you will have the fairness to allow me a brief space in which to state my own point of view in this matter. And this is the more desirable since the question appears to be one which greatly exercises the medical profession, and concerning which, not Mr. Cheyne only, but several other surgeons have addressed to me complaints.

First allow me to state the exact offence complained of. It is that I have printed a favourable opinion, which I state is derived from personal experience, concerning some twelve surgeons and doctors, most of them being well-known specialists. I have expressly limited my words by the following qualifications: "We do not suggest that the doctors named hereafter are superior to their fellows; we simply state that we have had experience of them as capable men in the various maladies alluded to, and that we should not hesitate to employ them ourselves."

Now, Sirs, I venture to assert that a similar statement, so limited, made concerning the members of any other occupation or business known to men would not have been considered annoying, improper, or in any way objectionable. It must be remembered that with regard to none of the gentlemen mentioned is there a word calculated to give pain or to express disapproval. My remarks are entirely confined to saying—I have had experience which justifies me in stating that those who go to A, B, or C for the cure of such and such diseases will go to men who are capable in their profession.

Can it be maintained—excluding the question of medical etiquette, with which at present I have nothing to do, and with which, indeed, a layman has no right to concern himself,—can it be maintained, I say, that to afford the public such information is in itself improper? Consider the record of any great man's illness and the newspaper comments on the skill and devotion of this or that medical attendant. Has anyone ever asserted that such comments were objectionable? Consider the biographical sketches of men such as Sir Henry Thompson or the late Sir Andrew Clark, in which are recorded, not only their abilities, but the steps by which they attained eminence. Has any objection ever been taken to the publication of these, though their very essence is laudation? Why, then, should it be taken to the Appendix of "What's What," which is clearly conceived in the interests of the public? The answer is to be found in the last letter which you publish from Mr. Watson Cheyne—that to the *Medical Times*. In that letter Mr. Cheyne states, with pardonable heat, that he has been unjustly suspected of self-advertisement, and he asserts that there is no reason why he should be so suspected. I most heartily agree with him; I go still further and say that such suspicion is as ridiculous as it is unjust—is absolutely incorrect and entirely unwarranted. There is no shadow of ground which could justify such assertion.

But, Sirs, I must go a step further: not only is this the case with regard to Mr. Watson Cheyne, it is also the case with regard to Mr. Harry Quilter. I am not a stranger to the public; it is more than a quarter of a century since I began to write continuously in books and newspapers, and opportunities have not been lacking to me, if my bent had been in that direction, of advertising my friends or calumniating my enemies. As a writer on the most important daily and weekly journals in England, as the editor of a well-known review, and as a constant contributor to magazines and newspapers of high standing, my words have been continually before the public, my opinions have been plainly expressed, frequently challenged, and as frequently defended. But no critic, however bitter, no adversary, however unjust, has ever said during the last quarter of a century that I wrote in the interests of advertisement, that I stated as facts what I did not believe.

Surely, Sirs, *I* have a right, with such a record, to resent this accusation even more strenuously than Mr. Watson Cheyne. Indeed, I have more ground for resenting it, for my whole life has afforded proof that it is false. In truth, it *is* a "dirty" suspicion, unworthy of a decent newspaper, and one for which there is no redress. It is true that no one who knows the gentlemen referred to would believe that they paid me to praise them, and no one who knows me will believe that I was so paid. But the majority of readers will know neither of us, and so this "pseudonymous anonymuncule," as Charles Reade would have called him, and his malicious insinuations will doubtless prejudice the minds of many envious and suspicious persons.

One last word, on the question which lies at the root of this matter—that of the medical etiquette which forbids

the recommending of a medical man save by another medical man. On this point, Sirs, I know that I cannot expect to obtain the agreement of a medical journal—*ex officio* you are bound to be against me; but you have many lay as well as professional readers, and to them I would say: Can you honestly think that it is not for the public interest—not for the "greatest good of the greatest number"—that information should be obtainable by uninstructed persons as to who are leading specialists, or, in the ordinary phrase, the "best people to go to" in this or that medical emergency—I will not even say the *best*, but *good* people? To whom could such information do harm? And is it not the case that the single argument against it is the unworthy argument above commented on—the argument that such information might not be unprejudiced. That, Sirs, can be urged against every kind of information whatsoever which is given to the public. It appears to me that each of such cases must be judged on its merits. Where a writer of reputation states publicly, assuming full responsibility for the statement, that such and such a fact is the case in his own personal experience he has a right, not, possibly, to his hearers' credence in the validity of his judgment, but to their belief in his *bona fides*.

In all human probability I shall never write another word concerning the medical profession in the strain to which objection has been made; I trust, however, that you will allow me to put on record the above, I fear, rather lengthy expression of my views and the intention by which the passage in question was actuated.

I am, Sirs, yours faithfully,

Manchester-square, W., 1902. HARRY QUILTER.

To the Editors of THE LANCET.

SIRS,—Will you be good enough to reprint in your columns the inclosed letter which I have received from the Editor of "What's What"? I am, Sirs, yours faithfully,

Feb. 14th, 1902. H. W. ALLINGHAM.

[INCLOSURE.]

To Herbert William Allingham, Esq.

DEAR SIR,—I am very sorry to learn that certain references to you by name in my work entitled "What's What" have caused you annoyance and that you consider them "calculated to damage you with the public and the medical profession." I sincerely regret their insertion and shall omit from any future edition any such references, and indeed all mention of your name whatsoever. I wish also to state that the references referred to were absolutely unauthorised by you or anyone on your behalf, and that you were in no way whatever responsible for or a party to such reference. I need hardly say that it was very far from my intention to cause you damage or vexation, and, as it appears that my words have unwittingly done so, I authorise you to make any use of this expression of regret which you may think fit.

Yours obediently,

Manchester-square, W., Feb. 12th, 1902. HARRY QUILTER.

To the Editors of THE LANCET.

SIRS,—My attention having originally been drawn to a reference to me in "What's What" by a visitor dining in my own house, I of course at once took steps to obtain redress for the annoyance. I drew the attention of the Registrar of the Royal College of Physicians to the book in question with the statement that the reference to me had been inserted without my previous knowledge and consent and to my very great annoyance. I further placed the matter in the hands of the Medical Defence Union to obtain either a withdrawal of the article, or, if that were not possible, an apology from the publishers and an undertaking that the objectionable article should not appear in any future issue of the book.

I have this morning received a letter from the solicitor to the Medical Defence Union stating that he had received from the publishers "what amounts practically to an undertaking that the paragraph shall not appear in any further edition," and also that he had after correspondence with Mr. Quilter received from him a letter giving "the same assurance that I gave to Mr. Watson Cheyne," and expressing his regret for the notice respecting myself.

With regard to the remarks which appeared in the *Medical Times and Hospital Gazette* of Feb. 8th, in which the suggestion is made that the sympathy of their professional brethren can only be extended to those whose names were unwarrantably made use of after they have dissociated themselves "from what the public at all events is certain to regard as professional advertisement," I may say that all the members of the medical profession whom I have met who have been aware of the publication in question have expressed their sympathy in advance and have not taken part in the unworthy insinuations of the editor of the *Medical Times and Hospital Gazette*.

I am, Sirs, yours faithfully,

Queen Anne-street, W., Feb. 19th, 1902. R. PERCY SMITH.

To the Editors of THE LANCET.

SIRS,—As one of the medical men referred to in the publication called "What's What," to which attention has been called by Mr. W. Watson Cheyne in THE LANCET of Feb. 15th, p. 475, I shall be obliged if you will afford me the opportunity of saying that as soon as the paragraph in question was brought to my notice I wrote to the editor (Jan. 2nd) asking him to withdraw my name from any subsequent edition or reprint. Mr. Quilter replied (Jan. 6th): "I am quite disposed to act in the manner most agreeable to you and shall therefore most probably delete the paragraphs in question." I am, Sirs, yours faithfully,

Wimpole-street, W., Feb. 15th, 1902. PERCY FLEMMING.

To the Editors of THE LANCET.

SIRS,—Mr. W. Watson Cheyne's letter in THE LANCET of Feb. 15th, p. 475, demands some reply from me. I cannot congratulate Mr. Watson Cheyne upon the choice of language which he deems it dignified to employ. In my humble judgment he might with more effect have utilised argument rather than abuse. He could, for example, instead of three verbose epistles, have stated the following salient facts.

"What's What" was published some two months ago. It professes to be a popular compendium of general information. It contains an appendix (B) headed "London Medical Men." This begins: "This paragram (*sic*) is medically speaking an unforgivable sin. For the strictest rules of etiquette forbid a doctor to advertise. ..... We do not suggest that the doctors named hereafter are superior to their fellows; we simply state that we have had experience of them as capable men in the various maladies alluded to." Then about two columns are devoted to recommending about a dozen physicians and surgeons, with their addresses, as "having a most wonderful ear for diagnosis"; as "second to none for general disease of a grave character"; as "a first-rate man"; as "most fashionable"; as "kind and genial"; as having "an enormous reputation"; and as being "a long bony Scotchman with a grey moustache and beard"; while "Mr. —— and Mr. Watson Cheyne are both undoubtedly first-class surgeons, and especially known in abdominal surgery," and so on.

In the first place, then, Mr. Watson Cheyne's attempt to excuse his friend on the ground that he acted in "ignorance" is clearly baseless, except that his friend is evidently ignorant of the Addisonian meaning of a "paragram." Some weeks ago the medical press condemned this appendix. For weeks medical men have been writing to the *Medical Times*, and doubtless also to you, Sirs, on the subject of this blatant advertisement. As it became evident that the gentlemen named were unaware of the invidious position in which they had been placed the *Medical Times* called their attention to the matter. Far from implying that they had any "knowledge of, or complicity in, the publication"—an extraordinary misstatement on the part of Mr. Cheyne—we said that it was "of course to be expected that the persons puffed in this unsavoury manner are altogether innocent of any participation in it." Confident of that fact, we also spoke of "the gross liberty that has been taken in thus, without their knowledge or sanction, recommending them and their addresses in this pitiably patronising production."

I believe that the other gentlemen referred to are grateful that their attention has been called to the matter. One of them has just sent me a printed and ample apology which he at once obtained from the editor of "What's What"—a dignified vindication which may be commended to Mr. Watson Cheyne who, while condoning his friend's "ignorance," considers it offensive and evidence of a "jealous and dirty mind" that his attention has been directed to the matter; and this in the face of his admission to his friend that the "paragram" may cause him "irreparable damage." Verily Mr. Watson Cheyne has a humorous method of expressing his gratitude to those who have saved him from his friend.

I refrain from further comment, but there is a great principle underlying this particular case—that there cannot be one law of right or wrong for Cavendish-square

and quite a different law for Camberwell. It is no more justifiable for outsiders to advertise the former than it is for the latter to advertise themselves. That is the only argument which the *Medical Times* has emphasised, and I submit that it is irrefutable.—I am, Sirs, yours faithfully,

THE EDITOR OF THE "MEDICAL TIMES."

Adam-street, Strand, London, W.C., Feb. 17th, 1902.

THE SCHOTT TREATMENT OF CHRONIC CARDIAC DISEASE.

To the Editors of THE LANCET.

SIRS,—In an annotation in THE LANCET of Jan. 11th, p. 110, in speaking of a pamphlet entitled, "Personal Observations and Comments on Bad Nauheim and the Schott Treatment," written by Dr. C. Turner of Butte City, Montana, which first appeared in the *Chicago Clinic* (December, 1900), you say, "We understand that this pamphlet has been widely distributed, and we think that Professor Schott should, in justice to himself and the many English physicians who send patients to Bad Nauheim to be placed under his care, at once take steps to challenge, and we feel sure to refute, the grave professional charges which are brought against him." Had you known the facts in this case I do not think that you would have considered it important for Professor Schott to answer Dr. Turner's attacks on his professional character. You could not have been aware, however, that a mutilated fragment of my challenge and refutation of the grave professional charges brought against Professor Schott had appeared in the *Chicago Clinic* a short time before your notice was published.

My letter as published was so much abridged that some important corrections of Dr. Turner's statements were entirely omitted. This will be rectified in a pamphlet shortly to appear where full justice will be done to Dr. Turner's statements, and the methods which have been pursued in distributing the same. The character of Dr. Turner's violent personal attack upon Professor Schott is unworthy of a professional gentleman, even were it supported by facts. Resting as it does, however, upon false statements, it cannot be deemed an effort to enlighten the profession and add to medical accuracy by sound and temperate criticism of error, but is a base attempt to darken council and destroy the reputation of a professional colleague who is doing curative work of great value. Were Dr. Turner not safely hidden in the far-off mountains of Montana, the best answer Professor Schott could make would be an action for criminal libel against the inventor and circulator of this precious pamphlet. My faith in the traditional fairness and justice of THE LANCET which have never failed is my excuse for addressing you.

I am, Sirs, yours faithfully,

Rome, Feb. 8th, 1902. W. W. BALDWIN, A.M., M.D.

A POINT FOR PUBLIC VACCINATORS.

To the Editors of THE LANCET.

SIRS,—I inclose a further communication from the General Post Office, *re* my last letter asking for further details of the regulations under which I am forbidden to wire for vaccine in an emergency or scare, free. As you will perceive, the Board of Agriculture takes more care over its swine and policemen than at present our Local Government Board does over small-pox and its medical officers, for surely it *does* appear monstrous that the Board of Agriculture by arrangement with the General Post Office pays for all reports sent by its policemen on wire, and yet the Local Government Board does not recognise our efforts to re-assure the public in a time of "official notices *re* small-pox" scares, &c., by endeavouring to obtain lymph quickly when the distance is great from London. As in your editorial comment on my letter, I admit that the law is against me, and knowing the futility of kicking against the pricks, I have paid for the telegram. All through I have been only actuated by the fact that I thought that my brother practitioners might not know the point which I have endeavoured to elucidate, and not having before seen the point raised might feel, as I do, that the Local Government Board would arrange facilities for quick transit of lymph when small-pox is spreading. Hoping that perhaps my feeble efforts to find out the true position may one day bear fruit, and thanking you for your kind consideration in sparing me space in THE LANCET,

I am, Sirs, yours faithfully,

HENRY T. WHITLING, M.B., B.S. Durh., &c.

Husband Bosworth, Rugby, Feb. 14th, 1902.

[ENCLOSURE].

General Post Office, London, Feb. 12th, 1902.

SIR,—With reference to your further letter of the 2nd instant respecting the question of payment for telegrams sent by you to the Local Government Board, I am directed by the Postmaster-General to explain that, as already stated, only officers of Government departments are entitled to send telegrams free of charge. You are under a misapprehension in supposing that telegrams sent by the police to the Board of Agriculture are dealt with by this department free of charge. By arrangement with the Board, such telegrams are accepted without payment at the time of despatch, but they are subsequently paid for by the Board.

Similarly the postage upon unpaid letters addressed to the Board of Agriculture is charged against the Board in the official account, and only such letters are entitled to pass without prepayment of postage under this privilege as are sent upon the public business. It is not considered that letters of application to the Local Government Board for lymph, such as you mention, are letters entitled to the privilege in question, and they should be prepaid with postage, therefore, in the ordinary way.

I am, Sir, your obedient servant,

H. F. Whitling, Esq., M.B., B.Sc. JOHN ARDRON.

"AUDI ALTERAM PARTEM."

To the Editors of THE LANCET.

SIRS,—It is due to me that it should be known that I replied fully to Dr. Latham's last communication, and that my letter was returned to me for further consideration, its tone not commending itself to the editors. I decline to modify its tone and cannot help feeling that as no editor is expected to accept responsibility for the statements of his correspondents the right should have been conceded to me of supporting my case by all fair and reasonable means.

I am, Sirs, yours faithfully,

Nottingham, Feb. 19th, 1902. EDWARD DEAN MARRIOTT.

*** Our correspondence columns are headed with an avowal of the impartiality which we strive to maintain. Mr. Marriott's letter was returned not because it contained statements for which we declined to take responsibility, but because both from its tone and its contents it invited an acrimonious discussion for which we did not care to find space.—ED. L.

THE EDINBURGH SCHEME FOR A PSYCHIATRIC CLINIC.

To the Editors of THE LANCET.

SIRS,—The writer of your leading article on "The Edinburgh Scheme for a Psychiatric Clinic," in THE LANCET of Feb. 1st, p. 318, somewhat fails to realise that mental disease has its bodily aspect, and that marked physical impairment is an almost inevitable accompaniment of acute mental disorder. To collect the insane either together in one "reception house" or in groups of houses for the purpose of a psychiatric clinic would (at least for London) mean the compulsory sale of Bethlem and St. Luke's Hospitals, or, failing this, the erection of new buildings upon land, both of which would be equally costly and undesirable. Those who are interested in the welfare of the insane have repeatedly advised the removal of these institutions from the heart of London into some more salubrious district where light and air, outdoor exercise, and healthy occupations could be indulged in daily—which is impossible during many days of winter fog and mist such as now enshroud the city; yet the influence of THE LANCET is cast in a contrary direction.

It is probably not known to the great bulk of your readers that the present asylums of London are already the "psychiatric clinics" of the medical schools, that they are situated upon healthy sites in the environs at not inconvenient distances from the centre of London, and that they have ample and extensive park-like grounds for recreation. These institutions received over 3500 new admissions last year, so that the total accommodation of Bethlem and St. Luke's Hospitals with their aggregate of only 350 beds—and I assume that they or an equivalent could be taken over as "reception houses"—would be totally inadequate. Further, if the anxiety be for the lot of the acutely insane and if consideration be felt in regard to the stigma appertaining to insanity, it is questionable whether more suitable sites and buildings could be obtained than the

highest skill has designed for those in present use, or that a scheme of management by one authority would remove the stigma. It is also a question which is by no means capable of one answer whether the county council or guardians of the Poor-law district be the most efficient authority. There is no doubt, however, of the ability and of the power of the county council to take over this scheme, but, on the other hand, the "burden of insanity" in the maintenance of over 20,000 insane persons at a cost of considerably more than £500,000 a year is considerably lightened by the guardians who, through an already existing channel, collect the payments made by the relatives and those legally bound to them according to their means. If the guardians are to be superseded then considerable changes in the present Poor-law system become a necessity, but the trend of public opinion seems to be in opposition to the further centralising authority of lay officials. Your leader writer does not appear to appreciate that what may be suitable and to the point in the case of Edinburgh with its population of only 300,000 may be, and possibly will be, very inappropriate, if not impracticable, for the county of London with its area of 120 square miles and a population of nearly 5,000,000.

The Poor-law infirmaries have done much to lessen the stigma of insanity and Dr. Toogood's statistics support his assertion to this effect, but he admits that it may be in part unavoidable, as county asylum accommodation was not possible; but is the "stigma of insanity" less poignant than the "stigma of pauperism," neither of which would, I venture to think, be removed by the establishment of rate-aided "reception houses"? A strong reaction is setting in against the superfluous outlay which has characterised public asylum construction in the past, and the present tendency to spend for the cure of those who may recover is adequately reflected in the last report of the Lunacy Commissioners who emphasise their determination to advise the Secretary of State to refuse his approval of all plans in which there is an obvious departure from this principle.

As supplementing the scheme which Dr. Toogood, in THE LANCET of Feb. 8th, p. 403, recommends for the Poor-law infirmaries I am of opinion that a much wider question is involved than is now under consideration for London, and I should suggest adding to the pathological and clinical staff of our present asylums, and the construction for every asylum of a "hospital" with every "suitable appliance for a psychiatric clinic" into which the acute and the recoverable cases can be received and from which—after a reasonable interval—those deemed incurable can be removed into a less expensive, but still "safe, bright, secure, and adequate" home. In this way interest and hope can be instilled into the work of those whose lot lies in ministering to those afflicted with this most distressing disease and whose incessant intercourse with this class leads not infrequently to painful consequences.

I remain, Sirs, your obedient servant,

Feb. 18th, 1900. EFFICIENCY.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Further Increase of the Plague Epidemic.—Increase in the Indian Medical Service.—The Population of Bombay.—Memorial to the late Surgeon-General Harvey, C.B.—A Parsi Sanatorium for the Sick Poor.—Antidotes to Snake Poison.—Small-pox in Simla.

THE increase in plague mortality this week is general throughout India. The total is 11,445, against 9204 for the previous seven days. Bombay city returns 311, against 296, and a general mortality of 1118, equal to a death-rate of over 70 per 1000 per annum. The Presidency returns 4622 deaths from plague, an increase of over 1000; the Madras Presidency 622, against 590; Bengal Presidency 829, against 593; Mysore 604, against 653; North-west Provinces and Oudh 972, against 829; the Punjab 3040, against 2379; and Kashmir 316, against 257. Calcutta returns 61 deaths and Karachi 41. The epidemic is still raging in Poona where the deaths are nearly 50 each day, but for some unknown reason the weekly figures are not published. The figures for the past few weeks show that the disease is spreading in Bengal and Calcutta, in the Punjab, in Bombay city, in the Madras Presidency, and in the North-west Provinces. If previous experience is of any avail the next month or so will show the highest mortality from plague that has occurred since its introduction in 1896.

An increase of 26 officers has been sanctioned for the Indian Medical Service to meet civil requirements.

The final report on the census in Bombay city has been issued and shows a population for the island of 776,006. It is estimated that 114,000 persons have died from plague during the past five years. The density of the population is shown by the districts of Kumbarwhada having 598 persons to the acre and the district of Khara Talao 536 persons to the acre. The district of Mandvi, where plague started and where it has always been so virulent, is chiefly occupied by Jains, and it is estimated that whereas formerly they formed 3 per cent. of the population they now form only 1 per cent. It is a peculiar feature of their religion that they will not destroy any living thing and it is this district of Mandvi which has been overrun with rats, probably on account of the large number of its grain stores. Deaths from kala-azar in Assam have diminished considerably. The district of Sylhet, where the malady first made its appearance in 1893, is suffering from a mild type only, and in Nowgong the deaths have fallen from 12,012 in 1897 to 4661 last year.

It has been decided to start a subscription list for a memorial to the late Surgeon-General Harvey, C.B., Director-General of the Indian Medical Service, but the exact form of the memorial has not yet been fixed.

The Parsis of Bombay city have lately opened a sanatorium on Camballa Hill for their sick poor. The building will accommodate 36 families—12 on each floor, and each will have a sitting-room and bedroom with bath-room and kitchen. It has been constructed on modern principles and with the best sanitary appliances, and a special feature consists in the adoption of bacteriological tanks for the disposal of sewage sullage and waste water upon the plans of the installation which have been so successful at the Matunga Leper Asylum. The sick poor from the congested and unhealthy parts of the city will thus have the benefit of a change of air and healthy surroundings.

According to the researches of Captain Lamb we possess an antidote to cobra poison in Dr. Calmette's antivenin, but the latter is quite useless against the Daboia poison.

A severe outbreak of small-pox has occurred in Simla.

Calcutta, Jan. 30th.

DENGUE AND PLAGUE IN THE NEAR EAST: THE PLAGUE IN BAGDAD.

(BY THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

REPORTS from the sanitary officers of Beirut and Tripoli show that in both these Syrian ports dengue has recently been rather severely epidemic. In Beirut the outbreak lasted some two months, and by the middle of December had almost completely disappeared. The large majority of the inhabitants were attacked, but the disease was most troublesome in old people and in persons the subject of malarial cachexia or of gastro-intestinal troubles. The number of deaths attributed to it were not large. Relapses appear to have been remarkably and unusually common, and in the hospitals some examples were seen in which the acute symptoms reappeared not only for the second but even for the third time after quite short intervals. The outbreak at Tripoli appears to have been equally general. In many families every member of the household was attacked and in most houses there were multiple cases. This epidemic appears to have synchronised with that at Beirut. The last report, dated Nov. 24th, stated that the outbreak was on the wane. In connexion with these outbreaks it is of interest to note that in Constantinople itself a few isolated cases clinically resembling dengue have recently occurred, but there has been no general epidemic.

Since the date of my last letter to THE LANCET[1] plague has shown but little activity in the Near East. In Constantinople itself, after the fatal case at Yakadjik on Nov. 5th, no other case occurred until near the end of that month. The patient in this instance was a Caucasian student, aged 16 years, who lived in a room over a casino called "The Caucasus," in the Karabash quarter at Top-Khané. He was said to have been taken ill on Nov. 25th, but he only sought advice on the 27th. The symptoms, as

[1] THE LANCET, Nov. 30th, 1901, p. 1533.

described, were fairly characteristic of an attack of plague with bubo in the left groin. The fact that this patient was a Caucasian and that some cases of plague had occurred shortly before at Batoum in the Caucasus led to the suggestion that this was an instance of fresh importation of infection from Batoum. But the fact that the house where the boy sickened was in the same quarter of this city where so many of the earlier cases of plague had occurred lent far greater probability to the view that the case was of indigenous origin. No other case of plague has since come to the knowledge of the authorities in Constantinople.

In Batoum and Odessa a few cases of plague and others of "suspected" plague occurred between the end of October and the beginning of December, but very few accurate details have as yet come to light as to their number, origin, or character. The Ottoman Board of Health imposed 10 days' quarantine against Batoum on Oct. 30th and removed it on Nov. 10th, re-imposed it on Dec. 10th and removed it on the 18th. Against Odessa 48 hours' observation with disinfection was imposed on Nov. 12th and removed on the 22nd.

In Smyrna no known case of plague occurred between the middle of September and the end of the year. On Dec. 21st a waiter in a restaurant on the Smyrna quays fell ill and later examination proved that this was a fresh case of plague. On Jan. 16th a second case was reported; the patient in this instance also was a waiter employed at a café situated on the quays. In both instances there was bacteriological proof that the diagnosis of plague was correct. It is difficult to account for these cases. The history of plague in Smyrna during the past year has been briefly as follows. In December, 1900, a small epidemic of plague pneumonia occurred in a village close to the town, causing the death of three whole families; in January a case of bubonic plague occurred in the town itself, another followed in the month of May, and a third in September. It is not easy to account for these long plague-free intervals otherwise than by supposing each case to be due to a fresh importation of infection. Smyrna is in constant relations with Constantinople and with Alexandria, in both of which plague has been present through the greater part of the past summer and autumn.

On Jan. 3rd a plague case was discovered at Beirut on the Syrian coast. The patient was a native of Bagdad and had travelled from Bagdad to Beirut, stopping a certain time (the length of which is at present unknown) at Damascus *en route*. He fell ill the day of his arrival at Beirut. This case presents many points of interest. As he is said to have fallen ill on the day of his arrival it is scarcely possible that he can have contracted the disease in Beirut itself. He came originally from Bagdad, and, as will be shown later, plague has been present in Bagdad certainly for several weeks, and possibly for many months. Later reports will, it is hoped, throw more light on this case, particularly as to the length of the interval between the patient's leaving Bagdad and his arrival in Beirut.

On Jan. 20th the sanitary officer at Bagdad telegraphed to the Board of Health in Constantinople that an outbreak of plague of some severity had occurred in that city. Up to that date eight known cases, of which four had proved fatal, had come to the knowledge of the authorities. A later telegram reports two more cases and three deaths, bringing the totals to 10 cases with seven deaths. Of the origin of this outbreak nothing is at present known with certainty. The sanitary officer's report states that rumours had been current for some time that a suspicious disease existed in the Abou-Seiffain quarter of Bagdad, but that no one ventured to point out to him the houses affected. As long ago as Dec. 9th he wrote to the Vali asking that an order might be given to the medical staff to inquire into the outbreak, but apparently nothing was done. The first certain case seen by him was on Jan. 17th. The suspected quarter of the city was the Jewish quarter and it is noteworthy that all the first eight cases were of the Jewish religion. In connexion with this outbreak the sanitary history of Bagdad during the past year is of the greatest possible interest. In May of last year a limited outbreak of plague occurred in the Sadrieh quarter of that city. So far as was known the disease then died out, but evidence has since come to light that this may not have been the case and that plague may have lingered on in Bagdad from then until the present day. In a report of the sanitary officer there, dated July 29th, it was stated that in June last rumours were already current of several cases of suspicious disease in the Bab-el-Chah and Sadrieh quarters of the city. On June 13th he and another practitioner "penetrated" into these quarters and saw three patients with bubonic symptoms. The *moukhtars*, *imams*, and other local notables denied the existence of anything unusual, but on the 14th two more cases were seen, and on the 15th one case. No subsequent cases could be observed, because the people had become suspicious of the medical men's visits and refused to report any more. The detailed description of these six cases shows that in each there were slight fever, one or more enlarged glands, and a short illness always ending in recovery.

A later report, dated Nov. 28th last, stated that similar cases of fever with enlarged glands had continued to appear from time to time in Bagdad in different parts of the town; and it was added that within the 10 or 20 days preceding the date of the report as many as half a score of such cases had been seen in a Jewish quarter of the city. It is in this quarter that the present outbreak of the plague has occurred. It is difficult in reviewing this brief history not to suppose that these cases of mild glandular fever may have been cases of mild or ambulant plague, and that the present outbreak of the severe form of the disease is but a revival of the infection remaining from the outbreak there in May last.

The measures decreed by the Board of Health to control this epidemic are briefly as follows. Two temporary lazarets of tents have been formed, the one to the north, at Beni-Said-Han, and the other to the south-west, on the Redvanieh Canal. Passengers have to undergo here five days' quarantine with daily exposure of their goods to the sun. Ships leaving Bagdad (by the Tigris) for the south undergo five days' quarantine at Gararah (close to Bagdad). Before loading such ships have to have their rats destroyed by sulphur fumigation. On arriving at Basra (near the mouth of the river) these ships have to go to the lazaret there in order that the clothes and effects of the passengers and crew may be disinfected in the stove. Cavalry patrols have been ordered to patrol the country between Bagdad and the two lazarets named above. The carriage of dead bodies from Bagdad to the Shiite Holy Places of Kerbela and Nedjef is prohibited for the present.

Constantinople, Feb. 1st, 1902.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Welsh Water Scheme.

WHEN the corporation of Birmingham embarked upon the scheme of a water-supply from the Elan valley they were contented with the prospect placed before them. The estimated expenditure was certainly very large, but it was considered to be amply sufficient for the object in view. The Parliamentary estimate for the first instalment was £3,755,360. Years have gone by, the works have steadily progressed, and as surely the expenditure has grown in a ratio far exceeding the expectations of the Water Committee of the Town Council. Even the most sanguine promoters of the project have to confess that they were unprepared for the enormous increase in the figures which has been laid before the Council. A report has been issued in which it is shown that the present estimate is £5,884,918, an excess of £2,129,558. This is a gigantic sum and the amount is looked upon with surprise mingled with indignation. The heavily burdened and patient ratepayer has to bear this extra load with philosophic resignation. Protest is useless, but the "man in the street" criticises freely and wonders how such a prodigious increase on the original estimate could have occurred—more particularly when he recollects that eminent geologists, leading engineers, and a host of scientific experts were engaged upon the work for a long time before the estimates were made out.

Small-pox.

A single case of small-pox is the total of the outbreak so far in Birmingham. As one swallow does not make a summer, so it may be inferred that one case may not be the beginning of an epidemic. Still it is curious to observe how fear takes hold of many who dread an epidemic. In view of this solitary instance it is asserted that many country-people refuse to come into the city, and speak with bated breath of the presence of small-pox in our midst. When reflection is allowed to take the place of panic it will

be seen how infinitely small the proportion of small-pox cases is to the number of inhabitants. Meanwhile the ill wind blows and the good follows in the prevalence of vaccination both by public vaccinators and by general practitioners throughout the country. The chairman of the Health Committee has shown a laudable example in being vaccinated himself, and it is noticeable that a large number of public functionaries have also submitted to the same precautionary measure. The medical officer of health has suggested also that the committee should recommend that the Infectious Diseases (Notification) Act, 1889, shall apply within the city to chicken-pox as if such disease had been specifically mentioned in the Act. No doubt this recommendation will be adopted as a wise provision for discrimination and prevention of the spread of disease.

Unqualified Dentists.

Some discussion has arisen on the question of the registration of all who practise dentistry. Birmingham suffers, as most towns do, from the presence of a large number of advertising dentists. There are difficulties in placing the names of those upon the Register who have not gone through the necessary curriculum; but the number of those practising before the adoption of the Register is now yearly getting fewer, and in time the question will largely settle itself. The mechanical part of dentistry must often be worked out under the direction of some superior; the surgical part is inevitably only to be acquired by long and patient study in a recognised school of teaching. The Birmingham School of Dentistry is an exceedingly good one and abounds in very able and competent teachers.

Feb. 18th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool School of Tropical Medicine: the Anti-mosquito Campaign.

ARRANGEMENTS have been made for Major Ronald Ross, F.R.S., late I.M.S., Walter Myers lecturer in the Liverpool School of Tropical Medicine, to proceed for the third time to Freetown, Sierra Leone, to assist in the work which is being vigorously undertaken in West Africa against malaria and mosquitoes. Major Ross will sail from Liverpool on Feb. 22nd. The expedition which he is going to rejoin, the fifth to be organised by the Liverpool School of Tropical Medicine, went out early in last year under Major Ross's direction with Dr. A. Logan Taylor. The work of the expedition is being carried on with energy. Dr. Latchmore, the medical officer of the Princess Christian Hospital in Sierra Leone, in his report, says that it is at present too early to say anything about the decrease of disease there, because the members of the expedition have only been at work eight months, and because it is very difficult to know whether such cases of fever as have occurred are simply relapses in old cases or fresh cases in which infection had been contracted since the beginning of operations. He adds that it can only be said guardedly that during this time there have been very few cases of malaria reported and that the health of the Europeans in the town has improved. He also says that there can be absolutely no doubt that the expeditions are doing a great work for the health of West Africa. Dr. Logan Taylor has succeeded in destroying a large area of the breeding-ground of mosquitoes, and in consequence there has been a great decrease in the number of mosquitoes in the houses. Some houses have been practically free from anopheletes for weeks, whilst others contain very few. He also states that anti-malaria work is being pushed on up country.

The Royal Southern Hospital: the Ward for Tropical Diseases.

The ward in the hospital devoted to the reception of patients suffering from tropical diseases in connexion with the Liverpool School of Tropical Medicine continues to do much useful work. 130 cases were admitted in 1901. The following nationalities were represented: English, Irish, Scotch, Welsh, Australian, Canadian, Spanish, Portuguese, French, West Indian, African, Swedish, Norwegian, Danish, Dutch, and East Indian. 13 were Lascars. There were 94 cases of malarial fever, 10 of dysentery, six of beri-beri, one of (tropical) abscess of the liver, and one of enlarged spleen. There were 11 deaths. In order to enhance still further the value of the work an out-patient department has been opened which is under the care of Major Ross and Dr. H. E. Annett. The sixtieth annual report of the committee of the Royal Southern Hospital states that the debit balance stands now at £5186 11*s.* 4*d.* £2139 had been received from the ex-Lord Mayor's Hospital Century Fund, and £2010 from the Hospital Saturday and Sunday Fund. The number of patients treated in the hospital during 1901 was 12,964, of which 2351 were in-patients and 10,613 out-patients. The total number of attendances was 46,343, against 44,175 in the previous year, showing an increase of 2168. The ambulance brought in 381 cases, the total number relieved by that means since the inauguration of the service in 1887 being 5875. The average number of beds occupied during the year was 190, the greatest number of in-patients at one time being 203. The number of deaths was 200, of which 60 occurred within 24 hours of admission; 18 persons who were brought in dead were not included in the above.

Small-pox in Liverpool: Deputation to the President of the Local Government Board.

The latest report of the medical officer of health of Liverpool places the number of patients suffering from small-pox at 42. A fortnight ago there were only 18 cases, but the increase need not be considered alarming as the addition to that number was largely caused by the arrival of the s.s. *Kansas* from Boston on Feb. 6th, having on board 14 persons suffering from small-pox. The utmost vigilance was exercised by the port sanitary authorities to prevent the ship from coming in contact with any other vessel, and the *Kansas* proceeded up to the Sloyne, a part of the Mersey at some distance from the landing-stage, whilst the patients were removed to the port sanitary hospital. The latest patient is a man who landed nearly three weeks ago from the steamer *Devonian*, also from Boston. The illness was of a type so mild that he did not suspect the nature of it. He presented himself at one of the general hospitals of the city on Sunday last in regard to some "spots" on his body, when the nature of the disease was determined. This individual, in the opinion of the authorities, had no doubt been the source of infection to two of the cases previously reported in which infection at that time had not been traced.—Mr. Walter Long (the President of the Local Government Board) will receive a deputation from the Port Sanitary Authority of Liverpool on Feb. 20th in reference to the difficulty experienced by that body in dealing with persons who had been exposed to the risk of small-pox on board vessels arriving in Liverpool.

Feb. 18th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox.

IN Ystalyfera, near Swansea, small-pox appears to be dying out, but in the borough of Swansea fresh cases are occurring, one having been reported on Feb. 10th and two on Feb. 15th.—The Swansea Corporation discussed on Feb. 12th the desirability of adding chicken-pox to the list of diseases notifiable in the borough. Although formal notice had been given in accordance with the provisions of the Infectious Disease (Notification) Act, 1889, the motion giving effect to the addition of chicken-pox was lost in favour of one instructing the town clerk to communicate with the medical men practising in the town, respectfully requesting them to seek the advice of the medical officer of health in all doubtful cases of measles or chicken-pox coming under their care.—In Cardiff at present there has occurred only one case of small-pox, the patient being a man who was admitted to the tramp ward of the workhouse on Feb. 4th. On the 5th he went into the workhouse infirmary and on the following day was found to be suffering from small-pox and was removed to the isolation hospital. The man had never been vaccinated. At a meeting of the board of guardians the chairman of the board animadverted upon the removal of the patient when he fell ill to the infirmary instead of to the isolation ward. It seems almost impossible for a layman to understand that the diagnosis of small-pox cannot be made on the first day of the disease, and if the suggestion that every ailing tramp should be placed in an

isolation ward is to be carried out many more such wards must be erected speedily, for it is obvious that if there is more than one patient in the ward it ceases to serve the purpose of isolation.—At Gloucester there is one case of small-pox, the patient being a sailor who had come from Bristol. There has recently been erected at Gloucester, at a cost of about £15,000, a very well-equipped permanent isolation hospital with accommodation for 28 patients in three pavilions.—A case of small-pox has occurred in a farm-house about five miles from Hereford, the patient having contracted the disease in Liverpool.

Disinfection after Phthisis.

In spite of the public meetings which have been held and the literature which has been scattered abroad in South Wales upon the subject of tuberculosis there appear to be still some members of sanitary authorities who are ignorant of the precautions necessary to combat the disease. After a death from consumption in Oystermouth, a district near to Swansea better known as the Mumbles, the medical officer of health, Mr. A. Lloyd Jones, very properly had the house in which the patient died disinfected—a proceeding which members of the district council characterised as quite unnecessary, and the chairman thought that the medical officer of health should be given an opportunity of stating his reasons for ordering the disinfection. When these reasons have been given the district councillors will perhaps realise that if they desire to attract visitors to their town they must encourage their officers to carry out these and similar precautionary measures.

Cardiff Infirmary.

An appeal has been issued by the Board of Management of the Cardiff Infirmary for £5550 to carry out certain projected improvements in the infirmary buildings. The form of the appeal is novel in that the improvements desired are definitely stated and the approximate cost of each is specified. Among the most important are an accident receiving ward which is to cost £1000, a room for delirious patients to cost £50, and a mortuary at a cost of £25.

Attack upon a Medical Man.

Mr. W. A. Reidy, a medical practitioner in Fleur-de-Lis, a Monmouthshire village near Cardiff, was subjected, though happily without serious consequences, to an alarming attack on Feb. 8th. On the evening of that day while sitting in his dining-room a bullet was fired through the window and window shutter and it fell at his feet. In connexion with the outrage a woman who had been a patient under the care of Mr. Reidy and whom a short time before he had refused to see is under remand.

Isolation Accommodation in Worcestershire.

A conference was held on Feb. 8th between the sanitary committee of the county council and the district councils of Worcestershire to consider what steps should be taken to prepare for an outbreak of small-pox. The population of the administrative county is 360,000 and there are within the county 13 urban and 17 rural districts. In only three of the urban and one of the rural districts, having a total population of 100,000 persons, is there any provision made for isolating small-pox. It was decided by the conference to recommend the county council to divide the county into six districts and to erect in each district an iron hospital with steam disinfector, &c. It is estimated that the cost of this scheme to the county will be about £3000, an amount equal to ½*d.* in the pound upon the assessable value of the county.

Gallant Action by a Medical Man.

At St. Agnes coastguard station on Feb. 11th the divisional officer (Lieutenant R. Ayscough, R.N.) presented two coastguards with bronze medals and diplomas which were awarded to them by the Dutch Humane Society for rescuing one of the crew of the ship *Voorspoed* off Perran Beach, Cornwall, on March 7th, 1901. Mr. Frank Postlethwaite, M.R.C.S. Eng., L.S.A., of Perranporth, received a silver medal from the society for boarding the vessel to render assistance to the man.

Taunton and Somerset Hospital.

The annual meeting of the subscribers of this institution was held on Feb. 13th under the presidency of the Hon. E. W. Portman. The medical report stated that the number of in-patients discharged during 1901 as "cured or relieved" was 736, against 593 in 1900. 4500 out-patients were treated, compared with 3968 in the previous year. The report mentioned that the recent appeal for £6500 for hospital improvements was liberally responded to, the sum of £6050 having been received already. During the past year the late Mr. R. B. West of Exeter had bequeathed £1000 to the institution. At the close of the meeting Major W. Barrett promised £400 towards the deficit on the building fund.

Feb. 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University: Death of the Lord Rector.

BY the death of the Marquis of Dufferin the University of Edinburgh has lost its Lord Rector. To those who were present at the rectorial address which he delivered in the M'Ewan Hall some months ago and who noted his profound anæmia and extreme debility the Marquis's death has been no surprise. On Feb. 15th the Senatus of Edinburgh University gave expression to its sorrow at the death of the Lord Rector by holding a service in St. Giles's Cathedral at the hour of the funeral. The students of the university through their Representative Council decided to give expression to their deep regret by holding a religious service in the M'Ewan Hall on the afternoon of Sunday, Feb. 16th. This service was largely attended and was presided over by the senior president of the Students' Representative Council. The meeting was addressed by the Rev. John Kelman, who dwelt upon the brilliant career and the high character of the deceased Lord Rector.

The late Dr. R. Peel Ritchie.

In THE LANCET of Feb. 15th, p. 481, I made reference to the death of Dr. R. Peel Ritchie. Preaching in St. Cuthbert's Church on the morning of Sunday, Feb. 16th, the officiating clergyman paid the following high tribute to his memory. He said: "In his relation with us as a member and office-bearer he leaves behind him the memory of a pure, straightforward, and upright Christian gentleman. Amid the differences of opinion which arise in the work of life he was always clear in stating his views, but he cherished no feelings save those of brotherly charity and friendship between man and man. Essentially a public-spirited and deeply religious man he gave much of his time to the public service, especially on behalf of the suffering and the destitute. As an elder of the church he was always marked by his faithful devotion to duty, by his high-mindedness and sincere Christian principle." Reference was also made to Dr. Ritchie's strenuous labours in the cause of Church defence, a cause which lay very near his heart.

The late Charles Stuart, M.D., L.R.C.S. Edin.

By the death of Dr. C. Stuart of Chirnside, Berwickshire, the border counties have lost a well-known medical man. He was a graduate in medicine of Edinburgh University of the year 1846 and had practised in Chirnside since 1848. In addition to his medical interests Dr. Stuart was a lover of plants and flowers and devoted considerable attention to the production of new varieties by cross-fertilisation. He also wrote papers on the botany, archæology, ornithology, and meteorology of his district. He had retired from active work during the last few years of his life.

Edinburgh Town Council: Notification of Consumption.

A special meeting of the Town Council of Edinburgh was held on Feb. 12th to consider reports by the Public Health Committee recommending the magistrates and council, as the local authority, to consider the passing of a resolution that the notification of pulmonary consumption should be made compulsory within the district, and suggesting the provision of a hospital with 100 beds for consumptive patients. The meeting was well attended at the outset, but at the close only about 30 members were present. The motion was given by Mr. Lang Todd, convener of the Public Health Committee, and ran as follows:—

(1) That the magistrates and town council, as local authority, resolved to meet on a date to be afterwards fixed in terms of the statute to pass a resolution that the Infectious Diseases Notification Act, 1889, shall apply to pulmonary consumption within their own district; and (2) that the magistrates and council generally approve of the suggestion that provision should be made for consumptive patients, but not exceeding 100 beds.

Mr. Todd discussed the hopefulness of the prospect in attempting the prevention of consumption, now that consumption was recognised to be not a hereditary but an infectious disease. He showed that the mortality from pulmonary consumption greatly exceeded the combined mortality from the

six most dreaded infectious diseases—viz., measles, whooping-cough, diphtheria, enteric fever, erysipelas, scarlet fever, and small-pox. Sir Henry Littlejohn, in his report for the year 1899, had shown that out of 574 deaths due to pulmonary consumption three-fifths of the victims inhabited houses of one, two, or three rooms. Presumably most of these had been ratepayers who if they had become ill with one of the fevers would have been entitled to the benefits of the city hospital. The municipality had, however, made no attempt to deal with cases of consumption even though it was a much more deadly infectious disease than any which it took charge of in the city hospital. If the town was to deal with those cases it must do so upon purely public and not on benevolent grounds. It was impossible to isolate the patients in all cases of consumption, but they might provide for cases beyond the range of cure and at the stage of the disease which was most dangerous for the community. The committee had made a suggestion that 100 beds should be fitted up in the present city hospital when the new hospital at Colinton had been completed, but it might prove to be more profitable to sell the old hospital and to provide a site elsewhere. What the committee desired meanwhile was that the council should, without committing itself as to site and other details, approve of the recommendation to include consumption among the notifiable diseases and that the council should further generally approve of the recommendation to provide accommodation for 100 beds for the reception of the most advanced cases of consumption. Treasurer Cranston, in seconding the motion, believed that whatever sum was required would be freely and frankly paid by the citizens in return for the benefit which they would get. The probable annual cost of notification, estimated at 2*s.* 6*d.* a head, would amount to £750, and a similar sum would be required for examining sputum. Mr. Clark proposed an amendment to the effect that arrangements should be made for voluntary but not compulsory notification. He thought that compulsory notification interfered too much with the rights and liberties of the people. On a division, after a four hours' sitting, 10 voted for the motion and 20 for the amendment.

Royal Society of Edinburgh.

A meeting of the Royal Society of Edinburgh was held on Feb. 17th, Professor Geikie, vice-president, being in the chair. Major W. B. Bannerman, I.M.S., superintendent of the Plague Research Laboratory at Parel, gave an account of the work carried on there under Professor Haffkine, the director-in-chief. Professor Fraser doubted whether plague epidemics could be stayed by the use of plague prophylactics, and urged that improvements should be brought about in the dwellings of the people. Major Bannerman, in reply, wished that Professor Fraser would use his influence to get a representative of the medical profession attached to the Legislative Council of the Viceroy of India.

Small-pox in Glasgow.

There has been a somewhat rapid extension of the epidemic, which was, however, not altogether unexpected, and is not in any sense alarming. The number of cases under treatment has increased to 133, and even this does not fully represent the recent activity of the outbreak, as many convalescents have been dismissed from the hospital. On Feb. 14th the new cases numbered 20; on the 15th, 39; on the 16th, 26; and on the 17th, 18. For the most part the cases have been of a mild type. At a meeting of the town council on Feb. 18th one of the medical members, in discussing the small-pox outbreak, drew attention to the large proportion of cases occurring in the east-end of the city, and argued that the explanation of this was the proximity of the small-pox hospital. This statement aroused some indignation and was generally condemned as neither warranted by the facts nor politic in the circumstances. The Lord Provost made an urgent appeal to the citizens to adopt the practice of revaccination. He stated that some 10 to 20 per cent. of the population even now remained unvaccinated, and he pointed these out as a danger to the whole community.

Glasgow University.

The University Court met on Feb. 13th. The principal made sympathetic reference to the death of Professor Adamson which has caused general distress and deep regret throughout the whole university. It was announced that the senate has appointed Monsieur Emile Bontroux, Professor of the History of Modern Philosophy in the Sorbonne, Paris, to be lecturer on the Gifford foundation for the sessions 1903–4 and 1904–5.—A distinctive robe has been designed for members of the court and this was formally approved.—The court has received a letter from the secretaries of the Muirhead College proposing coöperation with the university regarding the medical education of women; the letter was referred to a special committee.

Feb. 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Dublin.

No fresh case of small-pox has appeared in Dublin, while the three patients isolated in the convalescent home at Findlas continue to go on well. Sir Charles Cameron has written to the daily papers stating that the Public Health Committee has resolved to recommend the corporation to add chicken-pox to the schedule of infectious diseases which are notifiable. He appeals to medical practitioners kindly to report this disease even before notification has become compulsory.

Extraordinary Accident to a Coroner's Jury.

On Feb. 8th an extraordinary accident occurred at Newlands, three miles from Naas, in county Kildare. A man died on the previous day from the accidental stab of a pitchfork in the leg, and Dr. M. F. Kenna, the coroner for South Kildare, went to the place the next day to hold an inquest. The jury first proceeded to "view the body," which lay in a loft over a byre. The floor was a shaky one, and as soon as the twelfth juryman put his foot on it the entire fabric gave way precipitating the 12 men down on to the cattle below. The portion of the floor on which the corpse lay remained intact, but all the rest fell. The distance the jury fell was only seven feet, and, fortunately, beyond a few contusions, received while struggling among the cattle, no casualty occurred. The noise and confusion within the byre before the door was opened by the police to liberate the men were indescribable. The cattle, frantic with fright, roared, the jurors shouted and swore, and in their struggles with the cattle banged against one another or rolled on the not over-clean floor of the cowshed. When released they presented a remarkable appearance, being covered from head to foot with manure, while the odour exhaled from them was anything but pleasant. After a time, however, the inquest was proceeded with and a verdict in accordance with the medical evidence was returned.

The Government and Vaccination.

One of the most constant supporters of the present Government (the *Belfast Newsletter*) has a strong leading article in its issue of Feb. 18th in which it declares that it has "no sympathy whatever with the Government in this course of procedure"—that is, its opposition in the House of Lords on Feb. 17th to the Bill introduced by Lord Newton which sought to amend the Vaccination Act of 1898 by repealing the conscientious objector's clause of that Act. The *Belfast Newsletter* article blames the Government for its abject surrender to the so-called "conscientious objector" in 1898 as a most glaring blunder, and if, as it is stated, it was due to its desire to rush the Bill through by August 12th, then to resort to such methods of expediency is bad management of the business of the session. To abandon a principle approved of by the vast majority of the Members of the House of Commons in order to placate a small opposition because of the necessity of winding-up the session at a fixed date, is certainly poor statesmanship.

Irish University Education.

A petition has been prepared for presentation to the chairman of the Irish University Commission on behalf of Roman Catholic laymen. It urges that of the various proposals submitted to the Royal Commission the best is to be found in the establishment and endowment of a college in Dublin for Roman Catholic students affiliated to the University of Dublin, which should be, equally with Trinity College, a constituent college of the University with adequate representation on the governing body of the University. Those signing this petition—and it is said that it springs largely from members of the legal profession living in Dublin—argue that no scheme of university education in Ireland will be satisfactory unless it affords Roman Catholics the opportunity of taking the best degree to be obtained in

Ireland and of enjoying all the advantages to be obtained from collegiate life. This movement follows largely the suggested settlement of the Irish University problem made by Professor Mahaffy in his evidence before the Commission at its last sittings which were held in London.

Feb. 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Decay of Population in France.

THERE has been founded at Paris a league, with the title of "Ligue contre la Mortalité Infantile," for the study and active propaganda of methods calculated to combat in every way possible the excessive and preventable infantile mortality so prevalent in France. The league will further in all ways private effort for amelioration in any district where statistics show that such effort is desirable. It will also, with the aid of municipalities and of medical men, inquire into the causes of the excessive mortality which exists in certain districts and according to the results of these local inquiries will publish the best measures to be taken, and it will give hearty aid to municipalities or private benefactors who may wish to start refuges, crèches, dispensaries, "*gouttes de lait*," or other institutions for the distribution of sterilised milk or any similar institution. In one word the league wishes to help forward any method or society having for its object to help poor mothers and children brought up by them, whether such children be brought up by their own mothers or by "minders" or in charitable institutions. The league will also do its utmost to spread the light as far as regards infantile hygiene by collecting all information possible both from French and from foreign sources and by publishing pamphlets and leaflets on the subject. Among those who have given their warm approbation to the scheme are Dr. Budin, Professor at the Faculty, Member of the Academy of Medicine; Dr. Fournier, Professor at the Faculty, Member of the Academy of Medicine; Dr. Duclaux, Member of the Academy of Medicine, Director of the Pasteur Institute; Dr. Josias, Member of the Academy of Medicine, physician to the Bretonneau Hospital; Dr. Léon Labbé, Senator; Dr. Theophile Roussel, Senator; Dr. Grancher, Professor at the Faculty, Member of the Academy of Medicine; and Dr. Variot, physician to the Hospital for Sick Children. The president is Dr. Th. Roussel, the vice-presidents are M. Paul Strauss and M. Pierre Budin, the secretaries are Dr. Josias and Dr. Variot, and the treasurer is Dr. Henri de Rothschild. In its turn the Government has just appointed an extra-Parliamentary Commission to inquire into the best means of combating the decay of population. Among the members of this commission are the following medical men: Dr. J. Bertillon, Dr. Borne, Dr. Budin, Dr. Dron, Dr. Drouineau, Dr. Emile Dubois, Dr. Fumouze, Dr. Gauthier, Dr. Labbé, Dr. Lannelongue, Dr. Letulle, Dr. A. J. Martin, Dr. Maurel, Dr. Pinard, Dr. Rey, Dr. Richet, and Dr. Variot.

The Sealed Letter Archive at the Academy of Medicine.

The meeting of the Academy of Medicine on Feb. 4th was held *in camerâ* and important alterations in the rules of the society were agreed upon. The reasons for this change were as follows. The Academy had become aware that certain persons abused their privileges and the weight which the name of the academy carries by bringing before it papers which were devoid of any scientific value and were, in fact, nothing but advertisements. These were afterwards reproduced as serious works submitted to the Academy. Up to the present, when anyone who is not a member of the Academy wished to read a paper before it he was obliged to get the paper revised by the secretary, but nothing but the title of the paper and the name of the author were reproduced in the Transactions of the Academy. The same rule held good with regard to the correspondence addressed to the President and read at the end of the sitting. However, this difficulty was surmounted in the following manner. Anybody has a right to submit a communication as a sealed letter to be kept stored in the archives of the academy. In this way, anyone engaged in research is assured of rights of priority, even though, as is often the case, he does not wish to make public his researches until they are quite finished, which may not be for some time. As soon as this happens he can demand that his sealed letter shall be opened and read before the Academy and it is finally printed in the Transactions. In this way various charlatans have been able to obtain not only a reading but an official recognition of their lucubrations by the Academy. However, the Academy has now decided that no such reading or publication shall take place without the formal approbation of the committee of the Academy. This is a wise decision, but some means will have to be found of reconciling the new regulation with the approval *in posse* which the mere reception of the sealed letter would seem to imply.

The Death of Doodica.

Doodica, one of the little girls making up the xiphopagous monster whose division by Dr. Doyen I described to your readers in the last issue of THE LANCET, died on Sunday, Feb. 16th. The post-mortem examination revealed complete union of the operation wound and there was no trace of hæmorrhage around the divided liver tissue. The peritoneum was thickly studded with tubercles, and besides there was in the right iliac fossa an enormous peri-cæcal abscess which had been set up by an appendicitis. The appendix was gangrenous and there was intestinal perforation. No surgical measures would have been of any avail in a condition of such widespread disease even if the condition had been diagnosed. Radica, the other twin, continues to improve at the time of writing.

Feb. 18th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Accusations against Berlin Hospitals.

IN the German Parliament not long ago serious accusations were made against the Berlin hospitals on the occasion of a debate on the Budget. The subject was introduced by Herr Antrick, a member of the Socialist party, who drew attention especially to matters connected with nursing. He said that the male attendants, of whom a large number were employed in the State and municipal hospitals, were ill-paid, over-worked, and insufficiently fed. The consequence was that changes were very frequent among them, for the majority of them looked upon nursing work only as a temporary occupation and resigned their situations whenever they could find other employment. Male attendants were therefore not so much in request now as they formerly were, and had been replaced to some extent by female nurses belonging either to religious orders or to private associations. These nurses, it now appears, have their detractors, one of whom has recently published a pamphlet from which Herr Antrick quoted in the course of his speech. In this work, the author of which has evidently been a male attendant, it is alleged that the moral standard of the nurses other than those belonging to the religious orders is not very high, that they do not object to nursing male patients suffering from venereal complaints and other diseases of the generative organs, and that they have a liking for being present at operations on these organs. Another of the charges is directed against the matrons, who, it is said, tyrannise over the nurses and sometimes set themselves in opposition to the medical staff. Two cases are even mentioned in which matrons by means of various machinations had succeeded in bringing about the removal of the principal medical officers of hospitals. A hospital in Berlin is also referred to, where about 20 children became infected with gonorrhœa, the explanation of which was that they had been washed with one sponge and this sponge contained gonococci. Another of the alleged grounds of complaint is that the chief medical officers have too many patients allotted to them, so many, in fact, that they are unable to do more than give attention to the so-called interesting cases, the remainder of the patients being left to the care of the assistant and junior medical officers (Volontärärzte). In order that the last sentence may be intelligible to English readers it must be explained that there are many points of difference between the hospital systems of England and Germany. In all the great hospitals of Germany belonging either to the State or to municipalities the medical officers, both the chief medical officer and the assistants, receive a fixed salary, which in Berlin amounts to 6000 marks (£300) for the chief physicians and surgeons apart from free house accommodation for themselves and their families. The position which they hold is therefore not an honorary one, as in an English hospital, but they are

Government or municipal officials and as such are required to make a daily visit to each of their wards. They may engage in private practice, but only as consultants. The number of chief medical officers is as a rule much too small, so that each of them is responsible for the care of a great many patients—sometimes from 300 to 400, and in Berlin a few years ago the number of chief medical officers was doubled with the view of relieving this pressure. As a matter of fact, this system has answered well in every way; the intellectual portion of the public are quite satisfied with it as it stands, and among the physicians and surgeons of the municipal hospitals of Berlin and other German cities there are men of European fame. If, as the Socialist party desires, these gentlemen were debarred from private practice and compelled to devote themselves exclusively to their hospital duties, the majority of them would no doubt resign their hospital appointments, as their emoluments derived from private practice must be twenty times as great as their official salaries. In his reply to Herr Antrick, Count Posadowsky, the Secretary of State, said that all these charges and some others of a like kind which were made by the Socialist party were either unfounded or exaggerated, and without denying the occasional possibility of abuses, he maintained that isolated occurrences must not be treated as representative of the hospital system in general. German hospitals, especially those of Berlin, were celebrated for their medical staffs, and foreign medical men who had visited them on such occasions as the meetings of congresses, spoke of them with admiration. Count Posadowsky added that the debate was in any case a purely academical one, for the municipal hospitals were under the control of either the municipalities or the Governments of the individual States, so that the Imperial Government had nothing to do with the matter. It is not unlikely that this debate in Parliament may tend to deter patients from seeking hospital treatment. The charges made against the hospitals do not for the most part rest on any foundation in fact and have caused much indignation in medical circles. The Berlin Municipal Council is the proper authority for dealing with such questions, and some of the members have announced that they will take steps to bring about an investigation.

Serum Treatment of Scarlet Fever.

At a recent meeting of the Gesellschaft der Charité-Aerzte (Society of Medical Officers of the Charité Hospital) Professor von Leyden gave an account of experiments that had been made on the treatment of scarlet fever by injections of serum. Serum obtained from patients convalescent from scarlet fever was injected in 12 cases, the result being evidently favourable in three of them, less marked in eight, and inappreciable in one. The temperature decreased in one case on the third day, in two cases on the fourth day, in four cases on the fifth day, and in two cases on the sixth day. All the patients were adults. The quantity of serum injected was 10 cubic centimetres at first and 20 cubic centimetres afterwards. In the ensuing discussion Professor Heubner said that in order to test the efficacy of Professor von Leyden's serum it ought to be used in serious cases only, for mild cases might recover without any treatment. He also pointed out that injections of human serum were not free from the danger of transmitting syphilis or tuberculosis, and, moreover, that in the absence of any definite knowledge as to the special virus of scarlet fever it was impossible to ascertain by experiment whether the serum of convalescents contained an antitoxin or not. Professor von Leyden, in his reply, said that the last-mentioned objection was equally applicable to the serum treatment of diphtheria, the efficacy of which was nevertheless beyond question.

His Excellency Professor von Bergmann.

Dr. von Bergmann, ordinary professor of surgery in Berlin University and director of the university surgical clinic, has been invested with the rank of Wirklicher Geheimer Rath (Real Privy Councillor). This dignity, which is the highest of its class in Germany, carries with it the title of Excellency and is as a rule conferred only on great officers of State and persons occupying important positions at Court, very few medical men having been thus honoured. The celebrated Professor von Langenbeck, who preceded Professor von Bergmann in the chair of surgery in Berlin University, was invested with this rank, but not until he had reached an advanced stage of his career, although in addition to his scientific eminence he had distinguished himself in two great wars. In THE LANCET of Oct. 13th, 1900, p. 1102, I mentioned that Professor Esmarch of Kiel had been created Wirklicher Geheimer Rath. He and Professor von Bergmann are the only two medical men at present in possession of this dignity.

Cancer and Malaria.

Some months ago Professor Loeffler drew attention to the circumstance that carcinoma had become more prevalent since the decline of malaria in Europe, and, as mentioned in THE LANCET of Nov. 30th, 1901, p. 1541, he suggested that a collective investigation should be made for the purpose of ascertaining whether cancer was less frequent in malarial than in non-malarial countries. In an article published in the *Münchener Medicinische Wochenschrift* Professor Kruse of the Hygienic Institute of Bonn has compared the death-rates from cancer and malaria in different countries. He found that in Italy during the period 1887–1891 the death-rate from malaria was 5·81 per 10,000, but the death-rate from cancer was nearly the same as in Prussia and Austria where no death was caused by malaria during the period in question. It appears that cancer is more prevalent in the north of Italy than in the south, and conversely that malaria is more prevalent in the south than in the north, but on the whole he thinks that these differences are due to racial rather than to climatic or geographical causes.

Feb. 17th.

Obituary.

SAMUEL ROBERT LOVETT, L.R.C.P. EDIN., L.R.C.S. IREL., L.S.A. LOND.

BY the death of Samuel Robert Lovett the medical profession loses one of its oldest health officers. Mr. Lovett, who was born in 1833, was educated at King's College Hospital. His father was one of the parish medical officers of the parish of St. Giles-in-the-Fields and Mr. Lovett assisted him before as well as after he became qualified. From a notice in the February number of *Public Health*, a proof of which has been courteously supplied to us by the editor, we learn that in 1875 Mr. Lovett was appointed medical officer of health for the district of St. Giles-in-the-Fields and St. George, Bloomsbury. Some years later the Ville of Lincoln's Inn was also placed under his care and he held both appointments until the coming into force of the London Government Act, 1899, when he retired with the highest pension possible. Unfortunately, just at the time he was seized with an acute illness which left him in a very enfeebled condition. Mr. Lovett was instrumental in bringing about several radical clearances of slum property in St. Giles district, notably the Great Wild-street, Little Coram-street, and Shelton-street areas, which were dealt with under the Artizan and Labourers' Dwellings Act, 1875, in addition to which he reported nearly 200 houses under Part II. of the Housing of the Working Classes Act, and he was at all times ready to assist his colleagues with the benefit of his experience. Mr. Lovett's connexion with the Incorporated Society of Medical Officers of Health dates from 1875, and before long he was elected a member of the council and auditor of accounts. In 1880 he was elected honorary treasurer, which office he continued to hold, greatly to the advantage of the society, till 1894, when he was chosen president. After the International Congress of Hygiene and Demography in London in 1891 the society presented Mr. Lovett with a service of plate in recognition of his services as treasurer. It will be remembered that the society's journal, *Public Health*, was the official organ of the Congress, with a daily issue, under the editorship of the present president, Mr. A. Wynter Blyth, and a good deal of work fell on Mr. Lovett in connexion with the financial arrangements of the undertaking. A few months ago, in consequence of continued ill-health, Mr. Lovett resigned his fellowship of the society, and as a further mark of its appreciation of his services the society unanimously elected him an honorary fellow. At the request of the council Dr. E. C. Seaton attended the funeral at Brompton Cemetery on behalf of the society and placed a wreath on the coffin. Other floral tributes included those from the staff of the late St. Giles Board of Works, from the Lodge of Fidelity (of which Mr. Lovett was a past master and for many years secretary), as well as from many private friends and official colleagues.

CECIL LATTER, M.A., M.D., B.C. CANTAB.

HIS many friends will learn with deep regret of the sudden death of Dr. Cecil Latter of Folkestone, which took place

on the evening of Jan. 29th under circumstances of singular sadness. He was staying with a medical friend in London and while hurrying across Hyde-park to be in time for dinner was seized with heart failure and died during his conveyance to St. George's Hospital. To those who had seen much of him of late this sudden end was not wholly unexpected as signs of heart weakness had shown themselves previously and the general condition had been lowered by insomnia. He may be said never fully to have recovered from a very severe attack of complicated scarlet fever contracted at the end of his term of service as assistant medical officer at the Western Fever Hospital in 1893.

Cecil Latter, the son of the late Rev. Arthur S. Latter, was born in 1866. In 1884 he left Charterhouse with a science scholarship and entered at Pembroke College, Cambridge, where he graduated in the natural science tripos in 1887. Mental abilities of a marked order enabled him to grasp and to retain very easily the details of an education in natural science, but science in itself did not really attract him. His real interests were always human and as quite a young man he exhibited in a remarkable degree the power of insight into character; he was acutely critical but nearly always in the sense of seeing good qualities where others missed them. In 1888 he entered at St. Thomas's Hospital, where, becoming at once intensely interested in the human side of medicine, he gave his very able mind for the first time to the serious study of its science and art, and as a consequence scored a brilliant record there, taking the Mead medal in 1891 and earning the esteem of the staff and of his fellow students. He held the various resident posts at St. Thomas's Hospital and then acted as assistant medical officer at the Gore Farm Convalescent Hospital and at the Western Fever Hospital, contracting at the latter the illness which was permanently to weaken him. Feeling strongly that the most complete and satisfactory function of medicine was that exercised by the family physician, Dr. Latter elected to enter at once upon general practice and in 1893, after convalescence from the fever, he settled at Folkestone. In the same year he married the daughter of Mr. William Beechey, and for this lady and her little son the most profound sympathy is now expressed by many friends both in and outside the profession. At Folkestone Dr. Latter soon began to acquire the work and to occupy the position to which he was entitled as a medical man unusually well equipped in his profession and possessed besides of a mind both original and highly cultivated. He took an active share in the work of the Folkestone Medical Society in its early days, proving an invaluable honorary secretary in 1894 and 1895 and a frequent contributor to its debates. He was elected to the staff of the Folkestone Hospital as well as to that of the St. Andrew's Convalescent Home. He always realised very keenly that members of our profession owed special public duties to the community, and a few years since he read a paper before the British Balneological and Climatological Society, urging his views on the subject. He put his doctrine into practice by getting himself elected in 1899 to the town council, on which body he proved himself an active citizen, particularly where public sanitation was concerned. The same sense of public duty made him devote a great deal of time and energy to lecturing upon first-aid and ambulance work, especially among the fishermen who repaid him with affectionate gratitude. It seems probable that his enthusiasm for municipal work put upon his constitution a strain greater than it could bear, for he never permitted it to interfere with the exactions of a large and increasing practice or with his work at the hospital. His untimely death has called forth expressions of deep personal regret from members of every class in Folkestone, where so many have lost in him not merely a skilful medical man but a sincere friend.

D'ARCY BAINBRIDGE CARTER, M.R.C.S. ENG., L.R.C.P. EDIN.

ON Feb. 8th there were laid to rest the mortal remains of D'Arcy Bainbridge Carter of Shipley who died from heart failure and pneumonia. The deceased was educated at Leeds Grammar School and at the Old Leeds School of Medicine. He qualified in 1881. As house surgeon to the General Infirmary at Leeds and afterwards resident medical officer to the Clayton Hospital, Wakefield, he built up a sound foundation of professional knowledge and in 1884 he entered into partnership with Mr. W. H. Ellis of Shipley. The many public appointments which he subsequently held, including as they did the post of surgeon to the Sir Titus Salt Hospital, Saltaire, surgeon to the Great Northern and Midland Railways and to the Eastern Division of the West Riding Constabulary, and medical officer to the Woodhouse Grove School, are proofs of the value placed upon his skill and judgment. Mr. Carter also trained members of the local ambulance association for service in South Africa. In short, there was no local movement in which he did not heartily coöperate for the benefit of his fellow townsmen.

Although the weather of Feb. 8th was of the most inclement description, snow falling heavily throughout the whole day, it did not prevent the people of Shipley from assembling in hundreds to pay a last mark of respect to the man who for the past 18 years had been alike their medical attendant and their friend. No one who witnessed the funeral procession could fail to have been impressed with the sincerity of the vast gathering which included men and women of all ranks. In conjunction with his partner, Mr. Ellis, Mr. Carter worked hard in the carrying-out of an extensive practice but devoted his leisure entirely to public work. Mr. Carter leaves a widow and two daughters; he died at the early age of 42 years. He was a type of man too rarely met with—one who gave his best for others and who thought of himself last.

WILLIAM CHARLES HILLS, M.D. ABERD., M.R.C.S. ENG., L.S.A.

DR. W. C. HILLS was the second son of Mr. Monson Hills the elder, resident apothecary and cupper of Guy's Hospital, and was born within its precincts in February, 1828. He received his early education at the Merchant Taylors' School and his medical training at Guy's Hospital, where he was intimately known to Sir W. W. Gull, Mr. Bryant, Sir Samuel Wilks, and many others. After qualifying as M.R.C.S., L.S.A., in 1850 he was appointed house surgeon at the Surrey Dispensary, and subsequently in 1854 was elected assistant medical officer at the Kent Asylum at Barming Heath, near Maidstone, under Dr. James Huxley, who is still living, the brother of the late Professor Huxley. In 1859 he graduated as M.D. Aberd. and in 1861 he was promoted to the medical superintendency of the Norfolk County Asylum at Thorpe, which post he filled with great ability and tact until January, 1887, when he retired on a well-earned pension of £600 a year. The remaining 15 years of his life were usefully employed as an alienist consultant in the county with which he had been so long associated and in gratuitous medical work amongst the poor of his district, by whom he was beloved. Death came to him suddenly from cardiac failure shortly after retiring to bed at his house in The Chantry, Norwich, on Jan. 18th last, and on the 22nd he was laid to rest in the picturesque churchyard of Postwick, near Thorpe, beside his second wife and only son who had predeceased him. He leaves one daughter, Mrs. Aubrey A. Blake, to mourn her loss. The funeral was largely attended by medical friends, including Mr. William Cadge, Mr. Charles Williams, Mr. Charles Muriel, Mr. Thomas H. Morse, and his old friend Dr. Ernest W. White, with whom in recent years he had generally spent a few weeks each summer at the City of London Asylum, for to the last he was eager to keep himself abreast of the times in the treatment of mental diseases.

PETER WILLIAM MARRIOTT, M.D. ST. AND., M.R.C.P. LOND., M.R.C.S. ENG., F.L.S.

WE regret to record the death on Feb. 1st of Dr. Marriott of Mentone. He was born on June 30th, 1831, and was the second son of the Rev. Harvey Marriott, vicar of Wellington, Somerset, and 40 years rector of Claverton, Bath. His grandfather, William Marriott, H.E.I.C.S., Governor of the province of Burdwan (then of some importance), near Calcutta, was brother of Randolph Marriott of Avonbank, and son of the Rev. Randolph Marriott, D.D., of the Leases, Bedale, Yorks, rector of Darfield, by his wife, Lady Diana, daughter of the fourth Earl of Denbigh, Count of Hapsburg, &c. He was educated at Edinburgh Academy, where in July, 1846, in the fifth class he won the prizes for the best sapphics, the best Latin hexameters and pentameters, and one for scholarship. He worked in the Bath United Hospital in 1849, and in 1850 matriculated at the London University. He entered the college of St. Bartholomew's

Hospital the same year and was a prizeman in physiology in May, 1851. In 1859 he joined the medical service of H.M. Indian Army and was attached to the 1st European Regiment of Madras Fusiliers (102nd Royal Dublin Fusiliers), his commission bearing date Feb. 10th. In 1861 he left India on sick leave, and from that year he practised at Mentone during the winter and spring, and from 1864 was nominated one of the Officiers de Santé in the Alpes Maritimes.

At Mentone Dr. Marriott was noted for his kindness and unaffected manners and the interest he took in his patients. He was a sincerely religious man and performed innumerable acts of kindness to the poorer classes of English who were obliged to reside at Mentone for their health. He was devoted to botany and years ago raised some funds for the first English church at Mentone by giving lectures on this favourite subject. He also made a valuable herbarium in the Alpes Maritimes and other parts of Europe. He married a daughter of the late Gerald FitzGerald, of the Queen's County, Ireland, and of St. James's-square, Bath, and leaves one son.

Medical News.

UNIVERSITY OF LONDON.—At the preliminary scientific examination held in January, the following candidates were successful:—

Entire Examination.

First Division.—Stanley James Annear Beale, London Hospital and University of New Zealand; Sheldon Francis Dudley, Merchant Taylors' School; Henry John Nightingale, St. Thomas's Hospital; and Alexander Morton Pollard, King's College and Alwyne Institution.

Second Division.—Josephine Eugenie Louise Griffiths, University College, Aberystwith; Charles Colgate Holman, Eastbourne College; Austin Threlfal Nankivell, Dulwich College and private study; Basil Thomas Parsons-Smith, University Tutorial College; Elsie Muriel Smith, London (Royal Free Hospital) School of Medicine for Women; John Heatly Spencer, Charing Cross Hospital and Alwyne Institution; and Ronald Ernest Told, St. Thomas's Hospital.

Chemistry and Experimental Physics.

*Godfrey Frederick Bly Allison, Guy's Hospital and William Ellis Endowed School; *James Appleyard, University College and private study; *C. James Armstrong-Dash, St. Bartholomew's Hospital; *Charles Anthony Basker and *John Albert Bullbrook, Guy's Hospital; *Angel Camacho, Charing Cross Hospital and Alwyne Institution; Lawrence Croft, Yorkshire College and Bradford Municipal Technical College; *Wilfrid James Parsons Dicks, private tuition; Reginald Lionel Ernest Downer and *Archibald Thomas W. Forrester, St. Bartholomew's Hospital; *Henry Mellor Fort, Owens College; *Eric Henry Rhys Harries, London Hospital; *Charles Thomas Hawkins, University College, Cardiff; *Reginald Beaumont Heygate, Middlesex Hospital and Epsom College; *Reginald de Bracy M. Hopkins, University College, Bristol, and private study; *Charles Reginald Hoskyn, St. Bartholomew's Hospital; *Howell Tylford Howells, University College, Cardiff; *Edward Henry Hugo, Charing Cross Hospital and Epsom College; *Evan John Goronwy Jones, University College, Cardiff; *Ralph de Veil King, St. Mary's Hospital; *Alfred John Lee, University College and University Tutorial College; Harold Howard Leeson, University Tutorial College; *Ethel Mary Lomas, London (Royal Free Hospital) School of Medicine for Women; Clement Lovell, University Tutorial College and private study; *Philip Janvrin Marett, Birkbeck Institution; *E. M. Spencer Mecredy, Yorkshire College and private study; Howard Edward Hall Mitchell, Guy's Hospital; A. Wornum Mongrettien, University Tutorial College and Birkbeck Institution; *John Griffiths Morgan, London Hospital; Humphrey Nockolds, Hartley College, Southampton; *Charles Louis Claude Owen, private study; *Joseph Owen, London Hospital; *Owen Brynog Parry, Birkbeck Institution and University Tutorial College; Walter Patey, Dulwich College; Arthur John Scott Pinchin, South Western Polytechnic and private study; *Edward John Price, University College, Aberystwith; *Eliza Macdonald Smith, London (Royal Free Hospital) School of Medicine for Women and Alwyne Institution; *Nora Frances Smith, London (Royal Free Hospital) School of Medicine for Women; Ethelbert William Squire, St. Mary's Hospital; William Francis Sutcliffe, St. Thomas's Hospital; Harold Thwaite, Birmingham University and private tuition; *Thomas Williams Wade, University College, Cardiff; *Norman Hamilton Walker, St. Bartholomew's Hospital; Herbert Inman Welsh, St. Paul's School and private tuition; *Edgar Wharton, Owens College; *Joseph William James Willcox, University College, Bristol; and Hugh Owen Williams, University College, Cardiff.

Biology.

*Arnold Alcock, Owens College; Frederick Alfred Barter, London Hospital; Harold Henry Blake, University Tutorial College and private study; *Henry Joseph Cates, University Tutorial College and private study; *Bertram Walter Cherrett, Hartley College, Southampton; Philip Crawford Conran, St. Paul's School and University Tutorial College; *Samuel Wilfrid Daw and A. Pfolliott William Denning, Guy's Hospital; Thomas Evans, University College, Aberystwith, and University Tutorial College; Rupert Farrant, Epsom College and private study; *Margaret Fisher, London (Royal Free Hospital) School of Medicine for Women; *Arthur Leslie Foster, Guy's Hospital; *Sidney Frank Fouracre, Charing Cross Hospital and Alwyne Institution; *Henry Leatham Grabham, St. Thomas's Hospital and Bedford Grammar School; *Hendrik Houwink, Birkbeck Institution; *Harold Emlyn Jones, London Hospital; Roger Percival Jones, University College, Cardiff; *Claude Herbert Marshall, Guy's Hospital and Dulwich College; M. Herschel E. R. Montesole and *Charles Max Page, St. Thomas's Hospital; *Arthur Haig Pollard, London Hospital; *Edgar Nelson Ramsbottom, Owens College; *Russell John Reynolds, Alwyne Institution and private study; *Arthur Herbert Rich, University Tutorial College; Claude Mallinson Rigby, Dulwich College; *Cecil Frederick Robertson, Middlesex Hospital and private tuition; *Arthur Frederick Sanderson, St. Thomas's Hospital; Frank Standish, London Hospital; Kenneth Henry Stokes, University Tutorial College; *Sydney Arthur Tucker, St. Bartholomew's Hospital; *Harold Arthur Whitcombe, Birmingham University and private study; *Cyril Underwood Whitney, Westminster Hospital; and *Arthur Zorab, Guy's Hospital.

* These candidates have already passed a part of the examination.

N.B.—The foregoing list, published for the convenience of candidates, is provisional only, and is not final until the reports of the examiners shall have been confirmed by the Senate.

UNIVERSITY OF CAMBRIDGE.—At the congregation held on Feb. 13th the following medical degrees were conferred:—

Doctor of Medicine.—L. T. R. Hutchinson, Trinity; G. C. Taylor Christ's.

Bachelor of Medicine and Bachelor of Surgery.—D. J. Morgan, St. John's; J. G. Cooke, Sidney Sussex.

VACCINATION IN WORKHOUSES.—At the meeting of the St. Austell (Cornwall) Board of Guardians held on Feb. 8th it was decided that every tramp coming into the workhouse should be vaccinated.—The Kingsbridge (Devon) Board of Guardians at its meeting on Feb. 8th decided that all the children over seven years of age in the workhouse, and such of the adults as wished it, should be revaccinated.

BRITISH MEDICAL BENEVOLENT FUND.—The annual general meeting of subscribers to the British Medical Benevolent Fund was held on Feb. 18th, Sir William H. Broadbent, Bart., K.C.V.O., the President, being in the chair. The report of the committee and the treasurer's financial statement for the past year were presented and adopted. In the grant department subscriptions amounting to £1110 9*s.* 2*d.* and donations amounting to £369 8*s.* 3*d.* had been received, and £1614 1*s.* had been distributed to 161 applicants in sums varying from £5 to £20. In the annuity department the income from capital had been £2419 8*s.* 5*d.*, of which £2288 6*s.* 8*d.* had been paid to pensioners of the age of 60 years and upwards, the number being now 114. The working expenses of the fund had been, as for so many years past, less than 5 per cent. and the accounts had been subjected to the usual strict investigation by a chartered accountant. The report stated that it was impossible to give adequate help, even to the most distressing cases, on account of the restricted means at the disposal of the committee, and it expressed a hope that every subscriber would endeavour to interest others in the work of the charity. Hearty votes of thanks were passed to the President and other officers, who were unanimously re-elected and the meeting concluded with a warm acknowledgment of the support always given to the charity by the medical press.

THE CHANGES IN CHEESE.—At a recent meeting of the Society of Chemical Industry Dr. W. F. Sutherst, F.C.S., Professor of Agricultural Science at the Cheshire Agricultural College, Chelford, read a paper on the "Ripening" of Cheese. He said that the final explanation of the process was still wanting, but two agencies—namely, microbes and the ferments which broke up the complicated bodies in the curd into simpler ones—were the chief causes. The microbic action was most varied, and to it the peculiar taste of different cheeses was due. But the moulds and fungi were capable, apart from bacteria, of ripening cheese. It might be possible to make any kind of cheese by causing the particular microbe of that variety to be dominant in the curd. The very technical chemical analysis of cheese was explained and the variations in the chemical groups that go to make up a cheese in its different stages were traced. As the chairman, Dr. Grossman, said, it is well known that cheese-making has been a very empirical proceeding. Mr. D. B. Hewitt, a member of the Cheshire County Council, complimented Dr. Sutherst on his paper and said that he remembered being asked by a prominent agriculturist why a cheese lost colour in one part and not in another, and also what it was that gave it its particular flavour, and why in Cheshire the old long-keeping cheese

was now very little made. It seems likely that such researches as Dr. Sutherst's may introduce something like certainty into cheese-making, greatly to the advantage of the makers and the community at large.

WALTON CONVALESCENT HOME, CLEVEDON.—The annual report states that during 1901 there were 479 patients admitted, an increase of six on the previous year. The financial statement shows a balance in hand of £29.

SOCIETY OF APOTHECARIES OF LONDON.—The Gillson Scholarship in Pathology, 1902, has been awarded to Dr. Herbert Stanley French, medical registrar at Guy's Hospital.

VICTORIA HOSPITAL, SWINDON.—The fourteenth annual meeting of the subscribers of this institution was held on Feb. 8th. The medical report stated that 262 in-patients had been admitted during 1901, against 230 in 1900. The financial statement showed that the total income amounted to £765 and that there was a favourable balance of £178.

MANUFACTURE OF CHLORATE OF POTASH.—It may be remembered that in connexion with the explosion at the Kurtz Chemical Works at St. Helens in May, 1899, it was asked if chlorate of potash was "explosive by itself." The recent experiments of Dr. Dupré prove that under some circumstances, as when a bead of chlorate is suddenly brought to a high temperature by passing an electric current through a loop of platinum wire in which the bead is held, an explosion results. Manufacturers seem unwilling to believe this.

A DISPUTED DIAGNOSIS.—The medical attendant of a man who died at Penydarren, South Wales, on Feb. 3rd was prepared to certify that the cause of death was bronchitis and fatty heart, but the son of the deceased disputed the diagnosis and refused to allow a post-mortem examination to be made. The medical man therefore refused to give a certificate and on Feb. 7th an inquest was held at which he again stated that the death was due to bronchitis and fatty heart, and the jury at once returned a verdict in accordance with that evidence. The coroner characterised the conduct of the son as utterly absurd.

BEQUESTS AND DONATIONS TO HOSPITALS.—Mr. and Mrs. John Stell of Keighley have given £500 to the new hospital at Keighley. The committee requires about £9000 to complete and equip the new premises.—Under the will of Mrs. Constance Trousdell of Byblox, Doneraile, county Cork, £50 are bequeathed to the City of Dublin Hospital.—In connexion with the provision of a nurses' home at the North Staffordshire Infirmary, the King, who laid the foundation-stone of the infirmary in 1866, has forwarded £105.—Under the will of Mr. A. J. Dettmar the committee of the Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Regent's-park, London, has received the sum of £9367 13s. 4d. for the new hospital now being built at Maida-vale.

MEMORIAL TO THE LATE JAMES PRESCOTT JOULE.—The services of the late Dr. Joule to science attracted but scant public recognition during his life and his name has not received any worthy memorial. Now, however, it is proposed that Sale, a suburb of Manchester, where Dr. Joule lived a retired life, shall do itself honour by removing that reproach. Sir William H. Bailey has offered to present to the Sale District Council an automatic recording meteorological public clock at a cost of about £250, and Mr. Frank Armstrong has offered a set of meteorological instruments, provided that they shall be suitably housed in the interests of the public. The district council is quite willing that a building shall be placed in the public park, and designs have been pregared for a tower to be called the "Joule Memorial Tower." It is to be a square building 40 or 50 feet high, with three clock dials and a dial to indicate the direction of the wind. The meteorological instruments will be in a room in the base of the building, while a tablet will be fixed outside, on which there will be a medallion portrait and a short record of Dr. Joule's work. The cost of the tower will be about £1000, which the district council would have provided had its funds been applicable for such a purpose. A committee has been formed to raise subscriptions, and it is believed that the object will appeal not only to those locally interested but to scientific men over a wider area. It is hoped that, apart from its being a memorial of Dr. Joule, it will receive official approval as a meteorological station. Mr. Charles E. Lees is chairman of the executive committee of the fund and Mr. J. Walter Robson is the honorary secretary.

NOTIFICATION OF CHICKEN-POX.—At the meeting of the Exeter City Council held on Feb. 12th it was decided that chicken-pox should be included among the diseases to be notifiable under the Infectious Diseases Notification Act.

At the meeting of the Plymouth Borough Council held on Feb. 13th Dr. J. Rolston and Mr. G. A. Rae, L.R.C.P., L.R.C.S. Edin., were elected members of the Plymouth Port Sanitary Authority.

SOUTHERN DISPENSARY, BATH.—The annual meeting of the subscribers to this institution was held on Feb. 4th under the presidency of General Jervois. The medical report stated that 976 patients had been treated during 1901, being an increase on the previous year. The financial statement showed a favourable balance of £91.

GRANT FOR SUCCESSFUL VACCINATION.—Mr. Alfred G. Hebblethwaite, M.R.C.S. Eng., L.R.C.P. Lond., has received from the Local Government Board a gratuity for successful vaccination in the Keighley district, of which he is public vaccinator. This is very gratifying, seeing that the district is an anti-vaccinationist hotbed.

HEALTH OF BARNSTAPLE.—The medical officer of health of Barnstaple (Mr. J. Harper), in his annual report for 1901, states that the population of that town is estimated at 17,962. 389 births were registered during the year, equal to a rate of 22·04 per 1000. 220 deaths occurred, corresponding to a rate of 12·43 per 1000.

A JUDGE ON VACCINATION.—At the opening of the Gloucestershire Winter Assizes, held at Gloucester on Feb. 11th, Mr. Justice Phillimore alluded to the late epidemic of small-pox in that city when the assizes were transferred to Cheltenham. He said that he was glad to hear that the lesson of the epidemic had not been lost on the city and that the protection afforded by vaccination was now recognised by the inhabitants.

PRESENTATION TO A MEDICAL PRACTITIONER.—At an entertainment given at the Oddfellows' Hall, Plymouth, on Feb. 12th, in connexion with the Great Western Railway Millbay Division of St. John Ambulance Brigade, Superintendent A. Ilott, on behalf of the members of the division, presented Mr. Henry Woolmington Webber, M.D., M.S., L.R.C.P. Lond., M.R.C.S. Eng., with a silver fruit-dish in recognition of his services as honorary lecturer.

THE ROYAL INSTITUTION.—Magic Squares formed the subject of the Friday evening discourse delivered at the Royal Institution on Feb. 14th by Major Percy A. Macmahon, Royal Artillery. A magic square is one divided like a chessboard into any number of equal squares, in each of which is placed one of a series of consecutive numbers from 1 up to the square of the number of cells in a side, in such a manner that the sum of those in each horizontal row, each vertical column, and each of the two diagonals is constant. Major Macmahon said that these squares had been known from a remote period; they were at one time supposed to possess occult qualities and had been worn as amulets. Euler and several other eminent mathematicians of later date had investigated their properties, as it was found that they served to illustrate some points in the theory of numbers and the theory of groups. A brief reference was also made to Na-ik squares and Nasik cubes. Several Nasik cubes are shown on the upper floor of the western gallery of the Museum in South Kensington.

VACCINATION RETURNS.—At the meeting of the Exeter Board of Guardians held on Feb. 11th the vaccination returns for 1900 were presented, which showed that during that year 831 births were registered; of these children 640 were successfully vaccinated, 30 were exempted on the ground of conscientious objection, 92 died unvaccinated, seven were medically postponed, 23 changed their address, and 38 were otherwise unaccounted for. During the first six months of 1901 there were 422 births registered. Of these children 288 were successfully vaccinated, 12 were exempted on the ground of conscientious objection, and 53 died unvaccinated.—The vaccination returns for Penzance Union for the first six months of 1901, which have just been issued, show that 597 births were registered. Of these

children 413 were successfully vaccinated, 24 conscientious objection certificates were granted, and 62 children died unvaccinated, leaving 98 unaccounted for, the majority of whom had certificates of postponement.—The vaccination returns for Bristol show that during the first six months of 1901 there were 9089 births registered. Of these children 5216 were successfully vaccinated, 222 were granted certificates of exemption on the ground of conscientious objection, and 996 died unvaccinated.

Parliamentary Intelligence.

HOUSE OF LORDS.

MONDAY, FEB. 17TH.

Proposal to Abolish the Conscientious Objector.

Lord NEWTON moved the second reading of a Bill to amend the Vaccination Act of 1898 by repealing the conscientious objector clause. His lordship said that he did not think that there was any sympathy in any part of the House with the person known as the "conscientious objector." The Lord Chancellor had caused all the officials at the law courts under his control to be vaccinated, and he was not aware that his lordship had made any exception in favour of the conscientious objector or anybody else. Nobody liked him and many hated him. Why not, therefore, take this opportunity of getting rid of him? When the Bill of 1898 was introduced there was no mention whatever of the conscientious objector; it was only after the sacrifice of Mr. Chaplin, then President of the Local Government Board, that the clause he now wished to see repealed appeared in the measure. His contention was that the clause had made easier the path of the anti-vaccinationist to the danger of the community at large, that it was mischievous and retrograde, and that as a matter of common-sense Parliament ought to repeal it.

Viscount GALWAY, supporting the Bill, said that in his opinion the clause constituted a danger to the community.

Lord KENYON pointed out that the whole Act was in the nature of an experiment and that in the ordinary course of things it would expire in 1905, when it would be necessary to review the whole situation. In these circumstances he thought that it would be unwise to pass this Bill.

Lord PIRBRIGHT expressed the view that the logical course for their lordships would be to abolish the conscientious objector at once.

Lord BALFOUR of BURLEIGH said that the issue raised in this matter was simply whether the conscientious objector clause should be allowed to expire with the Act itself at the end of 1905, or be brought to an end on Jan. 1st, 1903, by this Bill. Personally he was a believer in vaccination, as he believed that every member of the Government was, and he had testified to that belief by himself submitting to revaccination. He was responsible for vaccination in Scotland, where the conscientious objector was not known and where they got on very well without him. They might say that people ought to be vaccinated, and proceed if they chose to put them in prison for not having their children vaccinated; but in a country governed as this country was it was impossible to enforce a law if a large proportion of the people had made up their minds that the law was wrong. There was a state of rebellion against the law, arising partly from the carelessness with which vaccination had been administered and partly to a well-planned agitation. Two or three things were done. The vaccination officers had been instructed and empowered to administer vaccination on different lines; the obligation to take children to vaccination stations was, if not abolished, largely modified; the public vaccinators were empowered, and paid, to attend at the house, and the practice of arm-to-arm vaccination was got rid of and purer lymph supplied. It was hoped that by the operation of these and other causes the prejudice against vaccination would die away. A period of grace was believed to be necessary during which these prejudices could be combated and popular opinion changed. He was authorised by the President of the Local Government Board to say that, so far as his information went, the administration of vaccination under the law as it now stood was a great deal more successful than it had been before. He (Lord Balfour) did not go so far as to say that this was owing entirely to the liberty given to the conscientious objector. It was enough to say that the Act of 1898 had been highly successful, that it was tending to be more successful, and that he should look with great concern on any decision of that House which upset the compromise of 1898 a year before its natural time, as likely to encourage prejudice and agitation rather than to allay them. He did not think it possible to make out that the present epidemic was in any way connected with the legislation of 1898, because those who took advantage of the conscientious objector clause could not have been more than 14 years of age in 1898, and of those who had been born since only an average of some 32,000 or 33,000 a year had availed themselves of this provision. To make out that the present epidemic was connected with the legislation of 1898 it would be necessary to prove that only those, or mainly those, who had taken advantage of the clause were now the victims of the epidemic. Vaccination in London was on the whole better enforced than in any other part of England. People who were against vaccination might make an argumentative use of that admission and ask why, if London were better protected, it had this epidemic. That was due to a variety of causes which, if it were expedient, it might be necessary to examine. But there was not the slightest evidence to prove that either this epidemic or any other occurring since the Act of 1898 was passed was due to the legislation of that year.

The LORD CHANCELLOR said that he was unable to vote for this Bill, although if they were discussing the subject for the first time he did not say that he should disagree with the mover of the second reading. He had no power to make an order that all people employed at the Law Courts should be vaccinated. He had, however, intimated, and he proposed to act upon the intimation, that if they were not they would no longer be admitted. He hoped their lordships would not now interfere with the compromise made in 1898 and depart from that kind of understanding without which it would be very difficult to conduct public business in this country.

Earl SPENCER spoke in favour of the experiment being left undisturbed in the hope that the public feeling against vaccination might be allayed.

On a division being taken the Bill was thrown out by 52 to 32 votes.

TUESDAY, FEB. 18TH.

Shops (Early Closing) Bill.

The result of a second reading debate on this Bill was the rejection of the measure by 57 against 28 votes. The Bill was introduced by Lord AVEBURY, long known in the House of Commons in connexion with this subject as Sir John Lubbock. It proposed to give to local authorities on the application of two-thirds of the shopkeepers in their district the power of enforcing certain regulations as to hours of closing and half-holidays.

HOUSE OF COMMONS.

THURSDAY, FEB. 13TH.

Royal Commission on Tuberculosis.

Sir WALTER FOSTER asked the President of the Local Government Board if he could state the localities in which the farms were situated at which the experiments of the Royal Commission on Tuberculosis would be carried out and the condition on which these farms had been obtained and the necessary laboratories and buildings erected.—Mr. LONG replied: The two farms referred to are situated at Stansted, in Essex. They belong to Sir James Blyth who has most generously placed them at the disposal of the Royal Commission for experimental work free of charge. The Government have expressed to Sir James Blyth their warm appreciation of his act, which will greatly facilitate the labours of the Commission. Arrangements have been made for the occupation of the farms for a period of three years, though it is hoped that the inquiry will be completed within a shorter period. The Commissioners have caused to be erected on the farms the laboratories and other buildings necessary for their experiments.

The Supply of Lymph.

A question on this subject was addressed by Mr. BULL to Mr. Long who referred the hon. Member to previous answers which he had given and said that as at present advised he did not propose to ask for power to control the lymph supplied from outside sources.—Mr. THOMAS BAYLEY asked the President of the Local Government Board whether his attention had been drawn to the use of small-pox virus passed through pustules on monkeys as a source of vaccine by Dr. S. Monckton Copeman, medical inspector, Local Government Board, who stated that a considerable number of children had been vaccinated with vaccine thus obtained; and whether the Local Government Board had given its medical inspector leave to vaccinate children with vaccine of such a nature.—Mr. LONG replied that Dr. Copeman had informed him that he had made experiments of the kind referred to, but the Local Government Board had not given him permission to vaccinate children with lymph yielded by the monkey, and he (Mr. Long) understood that he had not done so. In all cases vaccinations had been performed with lymph derived direct from the calf.

FRIDAY, FEB. 14TH.

The Superannuation Question in Ireland.

Mr. CAREW asked the Attorney-General for Ireland whether all the officers, including the doctors, the apothecaries (who in most cases were also the treasurers), matrons, nurses, and porters to the different county infirmaries in Ireland, who on the passing of the Local Government Act of 1898 were transferred to the county councils, were entitled to pensions under the existing regulations.—The ATTORNEY-GENERAL (Mr. ATKINSON) replied that officers of county infirmaries were not officers of the Grand Juries and were not transferred to the county councils by the Local Government Act, 1898. The rights of existing officers of these institutions were preserved by section 15, sub-section 3, of the Act, but apparently no right to pension on retirement existed prior to the Act, and no such right was conferred by it.

The Use of Preservatives and Colouring Matters in Food.

In reply to a question addressed to him by Mr. JOYCE asking him whether he had taken any steps to carry out the recommendations of the Departmental Committee on this subject Mr. LONG said that legislation would be necessary to give effect to these recommendations, and he had not yet arrived at a decision as to the course to be taken.

Typhoid Fever Among the Troops in South Africa.

Sir WALTER FOSTER asked the Secretary of State for War if he could state the number of cases of typhoid fever and the number of deaths from that disease which had occurred among the troops serving in South Africa since May, 1901, giving, if possible, the numbers of cases and deaths for each month.—Lord STANLEY replied: The figures are as follows:—

	Admissions.	Deaths.
June	885	170
July	524	68
August	328	73
September	257	47
October	451	43
November	1091	160
	3336	561

The Royal Army Medical Corps.

Sir WALTER FOSTER asked the Secretary of State for War whether he could state how many non-commissioned officers and men of the Royal Army Medical Corps had been sent from England to South Africa during the last seven months and how many of these had had actual training in hospitals in nursing the sick.—Lord STANLEY replied: Since July 1st, 1901, 1160 non-commissioned officers and men of the Royal Army Medical Corps have embarked for South Africa. Of these, 826 were enlisted in the usual way and had had actual training in military hospitals in nursing the sick. The remainder were enlisted under a special Army Order of March 11th, 1901, engaging men who had been trained in civil life. These all had good certificates of proficiency in

first aid, ambulance drill, &c., but it is not possible to say exactly what actual nursing experience they had. On arrival in South Africa the drafts are detailed by the principal medical officers according to their qualifications.

The Enforcement of Vaccination.

Colonel STOPFORD-SACKVILLE asked the President of the Local Government Board whether he was aware that a recent vacancy in the office of the vaccination officer in the Wellingborough district lasted from Oct. 18th, 1901, to Jan. 30th, 1902; what was the reason for the delay in approving of the appointment made by the guardians; was any person appointed to act temporarily during the vacancy; and had he any information to show whether the vaccination laws were now effectually enforced within the limits of the Wellingborough, Kettering, and Thrapston unions.—Mr. LONG replied: In the case of Thrapston I understand that the vaccination officer is performing his duties satisfactorily and that prosecutions in cases of default are taking place. I regret, however, to say that the information in my possession shows that the vaccination laws are not being effectually enforced in the other two unions to which my hon. and gallant friend refers, and I am considering what steps should be taken in those and similar cases. With regard to Wellingborough, in consequence of a report which I received from one of my medical inspectors I caused letters to be addressed to the vaccination officers of that union calling attention to the unsatisfactory way in which they were performing their duties and stating that they would not be allowed to retain office unless they were prepared to carry out their duties in accordance with the Vaccination Acts. As a result one of the vaccination officers resigned. The guardians appointed another person in his place in October last, but in view of the unsatisfactory replies received from the other two vaccination officers I felt much difficulty as to sanctioning the new appointment. Sanction was eventually given last month in the case of this officer. I have felt it necessary to call on the other vaccination officers to resign.

MONDAY, FEB. 17TH.

Vaccination and the Conscientious Objector.

Mr. LONG, in reply to a question addressed to him by Mr. CHAPLIN, said that the Parliamentary return already issued gave the number of successful primary vaccinations for 1898 as 500,314 and for 1899 as 669,349. According to returns which he had since received the number for 1900 was 677,655. He had not at present received returns from all the unions for 1901. The number of certificates of conscientious objection received by vaccination officers were as follows: in 1898, 203,413; in 1899, 32,341; in 1900, 39,839; and in the first six months of 1901, 19,252.

The London Water Question.

Sir SAMUEL SCOTT asked the President of the Local Government Board whether he was prepared to insert in the London Water Bill a clause protecting the consumers of water in the area of the metropolis supplied by the Middlesex Water Company from the loss of the discount on their water-rates to which by law they were now entitled.—Mr. LONG replied: Under Clause 35 of the Bill the scale of water charges enforceable by the West Middlesex Company will continue in force until repealed, altered, or superseded. The powers of the Water Board in this matter will be precisely similar to those of the company at the present time, and I do not propose to insert any special provision in the Bill on the subject. I do not express any opinion as to the legal right of consumers, but no such right which now exists would be taken away by the Bill.

The Adulteration of Milk and Butter.

General LAURIE asked the President of the Local Government Board whether his attention had been called to the report of the public analyst for the borough of Paddington for the quarter ending June 24th, 1901, in which it was stated that, on a conviction for adulteration of milk by adding 22 per cent. of water, the magistrate inflicted a fine of 5*s*; and, in view of other similar prosecutions by local authorities for adulteration of milk and butter which had either failed in consequence of the terms of the contract or other such reasons or had resulted in either only the imposition of costs or modified fines, whether he could, by legislation or by other means, enable the local authorities to enforce the law against adulteration, especially of those articles in constant demand among the humbler classes.—Mr. LONG replied: I have not yet received the report referred to in the question. I have no authority to intervene in the manner suggested nor does it appear to me that I can undertake to provide legislation on the subject. I may especially point out that it must remain in the discretion of the magistrate whether a fine should be inflicted in any particular case and if so what the amount should be.

TUESDAY, FEB. 18TH.

The Army Medical Service.

Dr. THOMPSON asked the Secretary of State for War if his attention had been called to a recent statement of Dr. C. Ball of Dublin, a member of the Advisory Army Medical Board, respecting the retirement of army medical officers, and would he explain whether it was the intention of the Government to recommend that an army medical officer who had served 18 or 20 years in the army and who had failed to pass the examination to a lieutenant-colonelcy, should be compulsorily retired on a gratuity, or whether such an officer would be allowed to serve for 20 years, as at present, and then be retired on a pension of £1 per diem.—Mr. BRODRICK replied: An officer who fails to pass the examination for the rank of lieutenant-colonel will be permitted to complete 20 years' service and retire on £1 per diem.—Dr. THOMPSON asked the Secretary of State for War if, before the issue of the promised Royal warrant for reform of the Royal Army Medical Corps, he would carefully consider the objections raised, both by the officers of the Royal Army Medical Corps and the Medical Schools, to the recommendations of the late Departmental Commission as regards examinations for promotion; and if he would make such alterations as would limit these examinations to the real requirements of the service—viz., for promotion to the ranks of major and lieutenant-colonel, as suggested by the sub-committee appointed by the Council of the British Medical Association to consider the reform of the Army Medical Service.—Mr. BRODRICK replied: The only examinations in purely professional subjects will be those for major and lieutenant-colonel. The examination of lieutenants for the rank of captain will be in corps and service duties only.

The Water-supply of Knutsford.

Mr. GROVES asked the President of the Local Government Board whether he was aware of the danger to the inhabitants of Knutsford, Cheshire, arising from the pollution of their water-supply; that the medical officer of health of the urban district council had warned such council that Knutsford was liable to an epidemic similar to that which visited Maidstone, and that such opinion had been confirmed by an independent expert; and, seeing that the council had taken no steps to stop such pollution or to secure a pure supply of water, whether he would take proceedings to compel the council to fulfil its duties; and whether, in view of the application to Parliament for borrowing powers by the Knutsford Light and Water Company, he would see that conditions were imposed to compel the company to fulfil its obligations and to obtain its supply of water from an unpolluted source.—Mr. LONG replied: I am aware of the complaints which have been made as to the water-supply of Knutsford. The Local Government Board has been in frequent communication with the urban district council with regard to it. The council states that it feels the responsibility of its position but that it considers that it has taken every practicable step in its power for the safety of the inhabitants of its district. I am still in correspondence with it on the subject. I have no control over the company by whom the water is supplied, but at my suggestion the district council has placed before the Board of Trade the facts as to the alleged pollution of the supply so that the same may be considered in connexion with the application of the company to that department for a provisional order to enable it to raise additional capital.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, 156, Charing-cross-road, W.C.

Women in Love: Eight Studies in Sentiment. By Alfred Sutro, author of "The Cave of Illusion." Price 6*s*.

BAILLIÈRE, J. B., ET FILS, 19, rue Hautefeuille, Paris.

Radiothérapie et Photothérapie. Par le Dr. L. R. Regnier, Chef du Laboratoire d'Electrothérapie et de Radiographie à l'Hôpital de la Charité. Price 1 fr. 50 c.

CHURCHILL, J. & A., 7, Great Marlborough-street, W.

A Manual of Practical Anatomy. By the late Professor Alfred W. Hughes, M.B., M.C. Edin., &c. Edited and completed by Arthur Keith, M.D. Aberd., F.R.C.S. Eng. In Three Parts. Part II. The Abdomen and Thorax. Price 5*s*. 6*d*.

DORNAN, WILLIAM J., Philadelphia.

Transactions of the American Surgical Association. Volume the Nineteenth. Edited by Richard H. Harte, M.D., Recorder of the Association. Price not stated.

HEATH, D. C., AND CO., 15, York-street, Covent-garden, W.C.

Introduction to the Study of the Dependent, Defective, and Delinquent Classes, and of their Social Treatment. By Charles Richmond Henderson, D.D., Professor of Sociology in the University of Chicago. First English edition, enlarged and rewritten from first American edition. Price 7*s*. 6*d*.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

An International System of Electro-therapeutics. For Students, General Practitioners, and Specialists. By numerous associated Authors. Edited by Horatio R. Bigelow, M.D. Second edition, thoroughly revised and brought up to the present date. Edited by G. Betton Massey, M.D. Price not stated.

Baldness and Greyness: their Etiology, Pathology, and Treatment. By Tom Robinson, M.D. Fourth edition. Price 2*s*. 6*d*. net.

MACMILLAN AND CO., LIMITED, London and New York.

Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air Passages. Being Two Lectures delivered at the Medical Graduates' College and Polyclinic on Oct. 2nd and 9th, 1901. By Sir Felix Semon, M.D., F.R.C.P. Price 2*s*. 6*d*. net.

ROONEY AND OTTEN PRINTING CO., New York, U.S.A.

Transactions of the Twenty-third Annual Meeting of the American Laryngological Association. Held at New Haven, Conn., May 27th, 28th, and 29th, 1901. Price not stated.

SAUNDERS, W. B., AND CO., Philadelphia and London.

Nothnagel's Encyclopædia of Practical Medicine: Variola, Vaccination, Varicella, Cholera, Erysipelas, Whooping-cough, Hay Fever. Edited, with additions, by John W. Moore, M.D., F.R.C.P. Authorised translation from the German, under the editorial supervision of Alfred Stengel, M.D. Price 21*s*. net.

The Four Epochs of Woman's Life: A Study in Hygiene. By Anna M. Galbraith, M.D., Fellow of the New York Academy of Medicine. With an Introductory Note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. Price 5*s*. net.

SMITH, ELDER AND CO., 15, Waterloo-place, S.W.

St. Bartholomew's Hospital Reports. Edited by Norman Moore, M.D., and D'Arcy Power, F.R.C.S. Vol. xxxvii. Price to Subscribers, 6*s*.; to Non-subscribers, 8*s*. 6*d*.

UNIVERSITY CORRESPONDENCE COLLEGE, Burlington House, Cambridge. London Office: 32, Red Lion-square, Holborn, W.C.

Matriculation Directory. No. XXXI., January, 1902. With list of text-books, including the special subjects for June, 1902, and January and June, 1903. Price 1*s*. 6*d*. net.

UNIVERSITY PRESS, Cambridge.

Reports of the Cambridge Anthropological Expedition to Torres Straits. Volume ii. Physiology and Psychology. Part I. Introduction and Vision. Price 9*s*. net.

UNWIN, T. FISHER, Paternoster-square, E.C.

The Discovery of the Future. A Discourse delivered to the Royal Institution on Jan. 24th, 1902. By H. G. Wells, B.Sc., author of "Anticipations." Price 2*s*.

WHITTAKER AND CO., 2, White Hart-street, Paternoster-square, E.C.; and GEORGE BELL AND SONS, York-street, Covent-garden, W.C.

The School Calendar, 1902. A Guide to Scholarships and Examinations, 1902. Fifteenth year of issue. Price 1*s*. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALLPORT, R. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Acts for the Loughton District of Essex.

BERRY, H. POOLE, M.B. Lond., has been re-appointed Medical Officer of Health to the Grantham Corporation.

BROWN, HENRY REYNOLDS, M.B., M.S.Edin., has been appointed Medical Officer of Health to the Malden Urban District Council and Port Sanitary Authority, Essex.

BUTLER, GAMALIEL H., M.R.C.S., L.R.C.P. Lond., has been appointed a Member of the Central Board of Health, Hobart, Tasmania.

COOPER, ARTHUR, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Consulting Surgeon to the Westminster General Dispensary.

CORNWALL, J. W., M.D. Cantab., I.M.S., has been re-appointed to act Deputy Sanitary Commissioner, Madras Government.

CROWE, DANIEL, M.B., B.Ch. Dubl., has been appointed Certifying Surgeon under the Factory Acts for the Ulceby District of the county of Lincoln.

CROWTHER, EDWARD LODEWYK, M.D. Aberd., has been appointed President of the Court of Medical Examiners, Hobart, Tasmania.

DRAFFIN, DAVID KINNEAR, L.R.C.S., L.R.C.P. Irel., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Public Vaccinator for the Merthyr Vale District of the Merthyr Tydvil Union.

FLYNN, JOHN, L.R.C.P. & S. Edin., has been appointed temporarily Acting Official Visitor to the Hospital for Insane, Sandy Gallop, Queensland.

FROST, E., L.R.C.P. I., L.R.C.S. I., has been appointed a Medical Referee under the Workmen's Compensation Acts, and to act for the county of Clare, Ireland.

FRY, CRADOCK A., M.A., M.B., B.C. Cantab., has been appointed Honorary Assistant Surgeon to the Essex and Colchester Hospital.

LINES, DAVID H. E., M.B., Ch.B. Melb., has been appointed House Surgeon to the Hobart General Hospital, Tasmania.

MACRAE, F. ALNESS, M.B., M.S. Aberd., has been appointed Medical Officer of Health for Dingwall.

POWELL, W. WYNDHAM, F.R.C.S. Eng., has been appointed Honorary Surgeon to the Westminster General Dispensary.

RIDDELL, JAMES EDWARD, L.R.C.S. Irel., has been appointed Public Vaccinator for the districts of Wainui and Porangahau, New Zealand.

ROBERTS, D. J., M.B., Ch.B., has been appointed Medical Superintendent to the Westmoreland Sanatorium for Consumption.

SINCLAIR, G. T., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Clackmannan District.

SINCLAIR, NORMAN J., M.B., B.S. Aberd., has been appointed Medical Officer to the Post Office for the Brechin District, and also Medical Examiner for the Education Department under the Teachers' Superannuation Act.

STENHOUSE, ANDREW, M.B., B.Ch. N.Z., has been appointed Public Vaccinator for the Blackstone District, St. Bathan's, New Zealand.

THOMAS, WILLIAM JOHN, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the Bargoed District of the Merthyr Tydvil Union.

THOMSON, JOHN, M.B., Ch.M. Edin., has been appointed Acting Official Visitor to the Hospital for Insane, Goodna, Queensland.

THORP, WINIFRED, L.S.A., has been appointed House Surgeon to the Mater Infirmorum Hospital, Belfast.

TURNBULL, C. C. I., has been appointed House Surgeon to the North Devon Infirmary, vice M. B. Hay, L.R.C.P. Lond., M.R.C.S., resigned.

WYNCOLL, J. W., M.B., C.M. Edin., has been appointed Resident Medical Officer to the Westminster General Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN.—Ophthalmic Surgeon; Assistant Physician; Assistant Surgeon; Sanitary Officer.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Male House Surgeon. Salary £80 per annum, with board and washing.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeons, unmarried. Salary £150 per annum (with allowance of £30 for cab hire), furnished rooms, fire, lights, and attendance.

BLACKBURN COUNTY BOROUGH.—Medical Officer of Health. Salary £550 per annum.

BOROUGH HOSPITAL, Bootle, Liverpool.—Senior and Junior Residents. Salary £100 and £80 respectively.

BRADFORD POOR-LAW UNION.—First Resident Assistant Medical Officer, unmarried. Salary £125, with rations, apartments, and washing.

BRENTFORD UNION INFIRMARY, WORKHOUSE, AND SCHOOLS.—Assistant Medical Superintendent, unmarried. Salary £100 per annum, with apartments, rations, washing, &c.

BRIGHTON, HOVE, AND SUSSEX THROAT AND EAR HOSPITAL, Church-street, Brighton.—House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BRISTOL GENERAL HOSPITAL.—Assistant House Physician. Salary £70 per annum, with board and residence.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—House Surgeon (non-resident). Honorarium at rate of 40 guineas a year.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL, Parkhill.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

COUNTY LUNATIC ASYLUM, Lancaster.—Pathologist. Salary £200 per annum. Also Assistant Medical Officer, unmarried. Salary £150. In both cases with board, &c.

CUMBERLAND INFIRMARY, Carlisle.—Resident Medical Officer as House Physician for first six months and as House Surgeon for next six months. Salary at rate of £80 and £100 per annum respectively, with board, lodging, and washing.

DAVID LEWIS NORTHERN HOSPITAL, Liverpool.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, lodging, and laundry.

DONCASTER RURAL DISTRICT.—Medical Officer of Health. Salary £300 per annum.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150, rising to £180, with board, apartments, laundry, and attendance.

DURHAM COUNTY HOSPITAL.—House Surgeon; also Junior House Surgeon. Salary of Senior, £100, with board and lodging; of Junior, £50, with board and lodging.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon for six months. Honorarium of £25, with board, residence, &c.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's Buildings, Holborn-circus, E.C.—Honorary Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £30, washing allowance £2 10s., with board and residence.

KING'S COLLEGE, London.—Sambrook Medical Registrarship (open to King's College Students).

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried, for six months, eligible for election as Senior. Salary at rate of £80 a year when Junior and £100 a year as Senior, with board and lodging.

MANCHESTER ROYAL INFIRMARY.—Junior Anæsthetist. Salary £50 per annum.

MANCHESTER SCHOOL BOARD.—Medical Officer. Salary £250 per annum.

NEW HOSPITAL FOR WOMEN.—Anæsthetist (female).

PETERBOROUGH INFIRMARY AND DISPENSARY.—House Surgeon. Salary £80, rising to £100 per annum, with board, residence, and washing.

ROYAL BOSCOMBE AND WEST HANTS HOSPITAL, Bournemouth.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—House Physician. Salary £50, with board and washing.

SHEFFIELD ROYAL HOSPITAL.—Junior Assistant House Surgeon, unmarried. Salary £50 per annum, with board and lodging.

THINGOE UNION.—Medical Officer. Salary £80 and fees.

TOTTENHAM URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £500 per annum.

WARNEFORD HOSPITAL, Leamington.—House Surgeon. Salary £100 per annum, with board, washing, and apartments.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon for six months. Board and lodging provided.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeon, under the Factory Acts, at Heckington, in the county of Lincoln, and at Luton in the county of Bedford.

Births, Marriages, and Deaths.

BIRTHS.

BURRELL.—On Feb. 17th, at Arlarie, Kew, the wife of Lionel Cottingham Burrell, M.A., M.B., B.C. Cantab., of a daughter.

CRONE.—On Feb 4th, at Kensal Lodge, Kensal-rise, N.W., the wife of J. S. Crone, L.K.Q.C.P. Irel., L.S.A., J.P., Chairman Willesden District Council, of a son.

FISHER.—On Feb. 10th, at Sittingbourne, the wife of H. Holdrich Fisher, M.D. Lond., of a son.

HINDS.—On Feb. 13th, at Bexley House, Crayford, Kent, the wife of Thomas W. Hinds, M.D. Lond., of a son.

POWELL.—On Feb. 15th, at Calverton Lodge, Stony Stratford, the wife of Cecil Powell, M.A., M.B. Cantab., of a daughter.

ROBINSON.—On Feb. 14th, at Gladwins, Limpsfield, the wife of Charles Allen Robinson, B.A., M.B., B.C. Cantab., of a son.

STEWART.—On Feb. 16th, at Walton House, Lordship-lane, S.E., the wife of H. M. Stewart, M.A., M.D. Cantab., of a son.

WARING.—On Feb. 14th, at Wimpole-street, W., the wife of H. J. Waring, M.S., M.B. Lond., F.R.C.S., of a son.

WHARRY.—On Feb. 12th, at Park-street, Park-lane, the wife of Henry Gordon Wharry, M.R.C.S., of a son.

DEATHS.

CARTER.—February 5th, at Victoria Park, Shipley, from acute pneumonia, aged 42 years, D'Arcy Bainbridge Carter, M.R.C.S. Eng.

TOLLER.—On the 19th inst., to the great distress of his parents, and deeply lamented by his friends, at his residence, Cairo, Egypt, Seymour Graves Toller, M.D., M.R.C.P. Lond., aged 35, late Physician to Kasr-el-Aini Hospital, Cairo, and late Assistant Physician to St. Thomas's Hospital, London. Friends will kindly accept this, the only intimation.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HOW DISEASE IS SPREAD.

A CASE of small-pox diagnosed in one of a number of tramps sleeping at the East Grinstead workhouse on the night of Feb. 13th indicates the great need which there is for the Local Government Board to issue an order giving masters of workhouses power to detain and to vaccinate tramps when, in the opinion of the medical officer, such a course is desirable in the interests of public health. 16 casuals presented themselves for admission to the workhouse, but before their request was granted they were examined by a medical man—a course very wisely adopted by the board of guardians since the prevalence of small-pox in other parts of the county. 15 passed the medical officer, Mr. T. J. P. Hartigan, who, however, discovered the sixteenth to be suffering from small-pox, and, furthermore, he was of opinion that the disease must have been apparent for at least four days. In the course of these four days the itinerant had slept in the casual wards of two workhouses, and no doubt had associated with many more of his own class, and another night he passed in a stable or an outhouse. The necessary processes of disinfection were immediately carried out and the patient was isolated in a temporary small-pox hospital. But what of the other 15 casuals? The medical officer would have liked to have isolated and revaccinated them. For the want of the necessary authority he could not so act against their will; and, having performed the prescribed task of work, the casuals were allowed to go, to wander where they liked and probably to spread infection.

At a meeting of the Chichester Board of Guardians held on Feb. 14th the Rev. W. A. Firth moved that all casual paupers should until further notice be examined by a medical man before admission to the workhouse. The clerk replied that this would be impracticable. If such an examination can be held at East Grinstead we see no reason why a similar one should not be held at Chichester.

EGYPTIAN CIGARETTES.

MESSRS. W. J. BAMBRIDGE AND CO. of 37, St. Mary Axe, London, E.C., have submitted for our "inspection and analysis" a sample box of Loulopoulo and Co.'s Egyptian cigarettes, which are stated to be made from the finest Turkish tobacco and to be quite free from any artificial flavouring. We found the tobacco to be of an excellent Dubec type yielding on burning a pleasing aromatic odour free from pungency. We could detect no flavour other than that of well-matured Dubec leaf. The pleasing characteristics of this tobacco would, in our opinion, be better appreciated if the cigarette were made not so small. It would be an advantage if the cigarette could be made twice or even three times as thick so as to reduce to a minimum the amount of paper wrapper in relation to the tobacco.

AN OPPORTUNITY.

To the Editors of THE LANCET.

SIRS,—Having too many hobbies I am disposing (at Stevens's auction rooms, King-street, Covent-garden) of a superb 10-inch "Apps-Newton" induction-coil, which certainly has not had in all half-an-hour's use and is perfect in every particular. It will give a spark up to 11½ or 12 inches. The cost net was (with cabinet) £40 2s. 6d. The instrument can be purchased on the understanding that Messrs. Newton, the makers, will work the coil, if desired, and certify to its excellence. This they will do. There may be some medical correspondent or hospital on the look-out for such an instrument, which at anything below its net cost would be a bargain. The coil might well be sold as absolutely new.

I am, Sirs, yours faithfully,

30, Linden-gardens, Bayswater, W. E. DOUGLAS FAWCETT.

INCENSE AS AN AID TO THE TREATMENT OF INFLUENZA.

To the Editors of THE LANCET.

SIRS,—I have had remarkable success by the burning of incense (pulv. thus co.) freely in the rooms of my influenza patients; it is very useful in both recent and old-standing catarrhal cases—an antiseptic used in the days of Solomon.

I am, Sirs, yours faithfully,

Hampstead, N.W. G. PORTER WORNUM.

WEIGHT CHARTS.

MR. H. D. KELF of St. Saviour's Union Infirmary, East Dulwich-grove, has devised an ingenious pattern of weight chart on which a patient's weight may be recorded and preserved in a form convenient for reference. Three charts make a set, the first being arranged for weights not exceeding three stones, increasing by successive additions of half a pound; the second is intended for weights from three to nine stones; and the third for weights from eight to 14 stones. The charts have horizontal rulings with the weights printed on the left-hand margin and vertical rulings with spaces for entering the date at the top. They are supplied by Messrs. Maw, Son, and Sons, Aldersgate-street, London, E.C., and are sold at 12s. per 1000, or in smaller quantities at a slightly proportionate increase.

INDECENT ADVERTISEMENTS.

A CORRESPONDENT sends us the cover of *Illustrated Bits* for the week ending Feb. 22nd and invites our attention to certain of the advertisements. We regret to see that advertisements are published in this paper of Martin's apiol and steel pills and of Dr. Davis's Boon to Womankind. Ineffective as these kind of abortifacients almost invariably are, they are sold to women as safeguards against pregnancy and no newspaper should assist in the traffic. Other advertisements of "any special article in rubber goods," of "medical and surgical requisites," and of tablets providing "new life for weak men" would not, we feel sure, be accepted by an editor jealous for the good reputation of his journal.

THE R. B. ANDERSON FUND.

MR. WALTER MONNINGTON writes:—The following is a further list of subscriptions to date exclusive of those kindly collected and already announced by Dr. Alfred Cox of Gateshead:—

	£	s.	d.
Surgeon-Major H. de Tatham, I.M.S. (retired)	3	3	0
Dr. W. R. Haggard ...	2	2	0
Mr. T. M. Watt	1	1	0
Dr. A. Smythe...	2	2	0
Lord Hawke	1	1	0
Dr. W. H. Brazil	1	1	0
O. S. M.	0	10	0
Dr. W. D. Stone	1	1	0
Mr. Walter Edmunds ...	1	1	0
Dr. E. B. Ffennell	1	1	0
Mr. S. P. Snook	1	0	0
Dr. R. Petch	1	0	0
Dr. A. E. Porter	1	1	0
Major G. Galien, R.A.M.C.	2	2	0
Dr. W. Douglas	1	1	0
Mr. E. W. Emtage... ...	0	5	0
Dr. C. J. Wharry	1	1	0
Surgeon-Major G. K. Poole, I.M.S. (retired)	0	10	0
Dr. Robert Barnes... ...	10	0	0
Kirkham	0	4	0
L.R.C.P.	0	2	6
Dr. Clement Dukes ...	1	1	0
Dr. F. H. Alderson ...	0	10	6
Dr. Alfred Cox...	1	4	0
Surgeon-General Stewart	0	5	0
The Almoners of THE LANCET Relief Fund...	20	0	0
Dr. T. R. Lombe	1	1	0
Eleanor A. Forge	3	3	0
Dr. G. H. McCoull... ...	0	5	0
A. S.	0	10	0
Dr. Coda	1	1	0
Dr. J. Johnson...	0	5	0
Major F. P. Maynard, I.M.S.	2	2	0
Dr. J. A. Jamieson... ...	0	10	0
Ramsgate Medical Society	2	2	0
Mr. R. H. Wolstenholme (for the Manchester Medical Guild)*	12	4	6

*Details of this last amount will be announced in next list.

THE GRADUAL DEVELOPMENT OF FAHRENHEIT'S THERMOMETRIC SCALE.

IN the February number of *Knowledge* Sir Samuel Wilks relates some interesting particulars in the history of Fahrenheit's thermometric scale, on which the freezing and boiling points are marked 32° and 212° respectively. This scale in its original form was invented by Sir Isaac Newton, whose paper on the subject is to be found in the "Philosophical Transactions" for 1701. Sir Samuel Wilks continues his narrative as follows:—

> "His [i.e., Newton's] lowest point was that of freezing, as his highest was that of boiling, water. He chose for the starting point on his scale the heat of the human body, and this he called by the round number 12 ..... that is, he divided the space between the freezing point and the temperature of the body into 12 parts. ..... A few years afterwards, when Fahrenheit was working at the subject of heat, he took Newton's instruments for his experiments, but, finding the scale not minute enough, he divided each degree into two parts, and so made it measure 24 instead of 12. He also did more, for finding he could obtain lower temperatures than freezing, and notably that of ice and salt mixed together, he took this for his starting point. It was from this point he began to count 24 degrees up to body heat. This made, by his measurements, 8 the point of freezing. Boiling point he made 53. It then became zero, freezing 8, body heat 24, and boiling water 53. ..... Later on, finding that he could measure increments of heat more minutely, Fahrenheit divided each degree into four parts. It will now be seen that if the numbers just mentioned are multiplied by four we have the thermometer which is now in use. Beginning with zero, freezing becomes 32, the body heat 96, and boiling point 212. This is the scale which Fahrenheit made and the reasons for his doing so."

A PLEA FOR THE SEALED MILK-CAN.

To the Editors of THE LANCET.

SIRS,—In your annotation on the above subject in THE LANCET of Feb. 8th, p. 391, you mention that it has been stated pretty freely in court that the railway companies will not allow milk consignors to seal or lock their cans. This statement shows to my mind that the persons responsible for it either were hopelessly behind the times or had some ulterior object in making it.

For upwards of 20 years this company has insisted upon all milk churns consigned to them being sealed and not the slightest opposition or objection has been raised to the practice by any of the railway companies. Of such importance have we deemed this simple precaution that no contract has been entered into for at least 20 years which has not contained a clause imposing a penalty for the omission. As a result we have never, among the millions of cans we have received in the period, had a single case of tampering with the milk in transit.

I am, Sirs, yours faithfully,

M. HATTERSLEY,
Managing Director of the Aylesbury Dairy
Bayswater, W., Feb. 8th, 1902. Company, Limited.

A NEW SHAVING PASTE.

MR. EDMUND WHITE recently published in the *St. Thomas's Hospital Gazette* an outline of a proposed scheme for applying aseptic principles to the barber's duties in the hospital. The scheme has proved very satisfactory in practice, but a shaving brush capable of sterilisation was wanted to make the scheme complete. In the February number of the *St. Thomas's Hospital Gazette* Mr. White returns to the subject. He says: "A little consideration will show that in shaving it is necessary to support the hairs, so that the razor may cut through them transversely, and at the same time to moisten or lubricate the surface of the skin so that the outer layers of the epidermis may not be too freely removed. ..... Numerous trials were necessary in order to arrive at satisfactory results ..... and, finally, an emulsion of paraffin wax, melting at 55° C., was adopted. This was prepared with 25 per cent. of wax and 2 per cent. of tragacanth, the wax being melted and mixed with the tragacanth previously made into a mucilage with some of the water. The addition of a little stearin or lard renders the emulsification of the wax easier, for some reason which cannot readily be explained, while about 10 per cent. of alcohol makes the preparation more agreeable to use. The fatty odour of the preparation may be covered by the addition of a half to 1 per cent. of lavender oil, and the finished product then appears as a thick white cream. In use a small quantity is rubbed over the area to be shaved and the razor immediately applied. As the water in the emulsion evaporates, the particles of wax previously distributed in the emulsion become coherent and fill up the depressions in the surface of the skin from which the hairs arise, thus forming a mechanical support during the passage of the razor. The quantity required is very small, one ounce being sufficient for shaving the face about six times."

STERCORACEOUS THERAPEUTICS.

THERE is an inexplicable tendency in the minds of many people who are reputed sane to repose more confidence in the prescriptions of medicasters, no matter how illiterate—in fact, the more illiterate the better—than they do in those of men who have made a sufficiently deep study of medicine and the cognate sciences to be able to answer the requirements of strict, and withal practical, examiners. *Omne ignotum pro magnifico* ought certainly to be the motto of these illogical champions of uninstructed ignorance who, strange to say, are not themselves as a rule illiterate, but, on the contrary, often include in their ranks men of exceptional culture and education. Strange, likewise, but equally true, it is that the nostrums most in vogue amongst quack-salvers nearly always contain substances which, to say the least of them, are nasty. The more incongruous from an æsthetic, or, indeed, from a cleanly, point of view the vaunted remedy is, the greater are its curative virtues. It would really seem that if a budding charlatan can only hit upon something sufficiently filthy he may look upon the success of his panacea as assured. In a book entitled "Medicinal Experiments: or a Collection of Choice and Safe Remedies," of which the seventh edition was published in London by "W. Innys, at the West End of St. Paul's," in 1731, the author, according to the title-page, being none other than "The Honourable R. Boyle, Esq., late Fellow of the Royal Society," there are among its "Five Hundred Choice Receipts" a great many containing such inconceivably loathsome ingredients that the wonder is how they could ever have been thought of. Here are some textual specimens: Pigs-Dung; Earth-Worms; Paracelsus's Zebethum Occidentale (viz., human Dung); Millepides (in English by some called Wood-lice, by others Sows); the Patient's own Urine, newly made; fresh Stone-horse Dung; Pizzle of a Stagg; Highly Rectify'd Spirit of Man's Urine; Snail-shells; the Warts that grow upon the hinder Legs of a (Stone) Horse; Balls of fresh Horse-dung; House-Snails; Grated Pizzle of a Hart or Deer; Oil of Earth-Worms; Sole of an old shoe; Album Græcum or Doga-turd; Hens-dung, dry'd and mix'd with Sugar; fresh Sheeps-dung; fresh Cow-dung; Pizzle of a Green Turtle (or Tortoise); The Thigh-bone of a hang'd Person; The Powder (whether made by filing, rasping, or otherwise) of the Sound Skull of a dead Man; fresh Dung of a Hog; Vipers reduc'd to fine Powder; Frogs-spawn; &c. It would serve no useful or edifying purpose to disturb this ancient manure-heap if it were not that a tendency towards what we may perhaps call stercoraceous therapeutics still exists. In the *Morning Post* of Jan. 8th, 1902, the following passage will be found under the heading, "Discovery and Invention":—

> "The methods of native 'medicine men' are always matter for ridicule, sometimes too freely bestowed, among ourselves. A medical paper gives an account of the remarkable healing of wounds among the Kaffirs, and quotes the case of one of these having been shot, in mistake for a belligerent, by a sentry. The Lee-Metford ball passed between the ribs on his right side, went through the liver, and came out on the left under the last false rib. His native doctor, having first blown well into the wound through the hollow horn of a cow, put on two plasters of cowdung. Unfortunately, in the interests of science, though the man's condition was good and his temperature low on the fourth day, a regimental doctor saw the patient and substituted antiseptic bandages in place of the plasters, with the result that, after a brief relapse of suppuration, the patient mended. It is impossible, however, to assign the respective shares in the cure to the plaster and bandage."

The Honourable Robert Boyle, who has been styled the "father of modern chemistry," was a firm believer in the virtues of stercoraceous therapeutics, and it is evident from the views implied as well as expressed by him that the writer in the *Morning Post* shares the belief of his eminent predecessor. He thinks the interests of science have suffered because the wounded Kaffir's cow-dung plasters were ruthlessly torn from him. He is mistaken, but he errs in good mediæval company.

A CURE FOR WARTS.

To the Editors of THE LANCET.

SIRS,—If "At My Wit's End," whose inquiry as to the above appeared in THE LANCET of Feb. 8th, p. 420, will apply the following to his patient's warts twice daily they will soon disappear:—R. Papain, 3ss.; acid. hydroch. fort., 3i. Care must be taken that the mixture is only applied to the warts.

I am, Sirs, yours faithfully,
Manchester-square, W., Feb. 8th, 1902. THOMAS DUTTON.

To the Editors of THE LANCET.

SIRS,—I have found the liq. hydr. nitratis acidus a useful escharotic.

I am, Sirs, yours faithfully,
Feb. 11th, 1902. J. G. CARRUTHERS.

ERRATUM.—In Dr. Castellani's article "On Hæmolysins produced by Certain Bacteria," published in THE LANCET of Feb. 15th, p. 440, the words within parentheses "(bacillus typhi, bacillus coli, and bacillus dysenteriæ of Kruse)" in the first few lines of the text should have appeared in the title and not in the text.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (26th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (27th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (1st).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (24th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.), — 8.30 P.M. Papers:—Dr. M. Skerritt: Cardiac Pain.—Dr. H. D. Rolleston: Note on Hypostatic Albuminuria of Splenic Origin. Council Meeting Night.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Communications:—Mr. W. G. Nash: Sarcoma of the Sub-maxillary Gland proving rapidly Fatal.—Mr. J. Bland-Sutton: Anomalous Tumour of the Antrum. Paper:—Dr. H. Campbell: The Influence of Mastication on the Jaws and Appendages.

TUESDAY (25th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Mr. C. Ballance and Dr. P. Stewart: Clinical and Experimental Observations introducing a Discussion on the Regeneration of Peripheral Nerves (with lantern, epidiascope, and microscopical demonstrations).

WEDNESDAY (26th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—5 P.M. Meeting.
HUNTERIAN SOCIETY.—8.30 P.M. Mr. R. Harrison: Some Points in Practical Surgery suggested by the Study of the Life and Work of John Hunter. (Hunterian Lecture.)

THURSDAY (27th).—SOCIETY OF ARTS.—4.30 P.M. Mr. N. B. Wagle: The Industrial Development of India.

FRIDAY (28th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Exhibition of Clinical Cases followed by Discussion. Patients will be in attendance from 8 P.M. to 9 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (24th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. W. McAdam Eccles: The Imperfectly Descended Testis, its Anatomy, Physiology, and Pathology.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Therapeutics.

TUESDAY (25th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Corfield: The Etiology of Typhoid Fever and its Prevention. (Milroy Lecture.)
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. H. Broadbent: Clinique. (Medical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Moullin: Backward Displacements of the Uterus.
NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Mr. Horsley: Surgery of the Nervous System.

WEDNESDAY (26th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. W. McAdam Eccles: The Imperfectly Descended Testis, its Anatomy, Physiology, and Pathology.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Smith: Clinique. (Surgical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Ll. Williams: Hygiene of Mouth.

THURSDAY (27th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Corfield: The Etiology of Typhoid Fever and its Prevention. (Milroy Lecture.)
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Surgical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.
THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Voelcker; Demonstration of Selected Cases.
CHARING-CROSS HOSPITAL.—4 P.M. Dr. Wallis: Surgical Cases. (Post-Graduate Course.)

FRIDAY (28th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. W. McAdam Eccles: The Imperfectly Descended Testis, its Anatomy, Physiology, and Pathology.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. W. Dodd: Clinique. (Eye.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Abraham: Skin Cases.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1901, which was completed with the issue of Dec. 28th, and the Title-page to the Volume, were given in THE LANCET of Jan 4th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1901 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 0th,

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Feb. 14	30·05	N.E.	...	40	36	29	Fzn.	30	Overcast
,, 15	30·21	N.	...	44	39	30	35	36	Overcast
,, 16	30·35	W.	...	65	36	25	Fzn	25	Cloudy
,, 17	29·92	E.	...	58	42	24	Fzn.	28	Foggy
,, 18	30·03	E.	...	43	40	28	34	35	Overcast
,, 19	30·06	S.E.	...	43	39	35	36	37	Overcast
,, 20	30·07	N.E.	...	37	37	35	36	37	Overcast

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